



Market Access for Rural Development Project

Mid-term Evaluation

**Presented to:
USAID/Nepal**

under the Rural and Agricultural Incomes with a Sustainable Environment (RAISE)
Contract No. PCE-I-00-99-00001-00: Task Order 804

**Presented by:
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by

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Abbreviations

ADB	Asian Development Bank
APP	Agricultural Perspective Plan
CECI	Canadian Center for International Studies and Cooperation
DADO	District Agriculture Development Office
DOA	Department of Agriculture
EOP	End of Project
GON	Government of Nepal
HMG	His Majesty's Government
HVC	High Value Crop
MARD	Market Access for Rural Development Project
MOA	Ministry of Agriculture
NPR	Nepali Rupee
PCO	Project Coordination Office
SCO	Savings and Credit Organization
VDC	Village Development Council
USD	United States Dollar
MIS	Monitoring Information Systems
DLS	Department of Livestock Services

MAP OF NEPAL



Executive Summary

The purpose of the following report is to examine the Market Access for Rural Development (MARD) Project in terms of its effectiveness in delivering benefits to its client beneficiaries at the mid-point in its Project life-cycle. The report considers the strengths and weaknesses of the three implementing organizations - Chemonics, Canadian Center for International Studies and Cooperation (CECI) and His Majesty's Government (HMG) and makes recommendations on ways to restructure parts of the Project to strengthen successful activities and eliminate non-performing activities.

Preparation of the evaluation report took place throughout September 1999. The methodology included an in-depth review of Project documents from numerous sources. The evaluation team interviewed stakeholders, Project implementers, allied Project staff, and USAID Project Managers, as well as Ministry of Agriculture (MOA) officials at the national level and Department of Agriculture (DOA) and Department of Livestock services (DLS) officials at the regional and local levels. Following three weeks of document review and interviews, the team wrote the following report.

MARD Project Purposes

The purposes of the MARD activity are to increase sales of high-value agricultural and livestock products by expanding markets and increasing participation by farmers and agro-entrepreneurs in high value cash crop production and marketing and to improve nutrition for children below six years and lactating mothers.

There are three different organizations involved in MARD's implementation. This summary will examine each of these groups independently and highlight ways USAID can adjust the Project to maximize its return on its investment.

▪ **Chemonics Findings and Recommendations**

Operating under a \$3.45 million, five-year contract, Chemonics started implementation of its MARD

Project in April of 1997 in the Rapti zone. Over the course of its first operating year, the management became concerned about staff security issues when a Project employee was kidnapped in early 1998. In May 1998, one of the Project's district coordinators was murdered, prompting the decision to relocate the Project to Gandaki-Lumbini. This move was begun in September 1998. At the time this report was prepared, Chemonics had been at this new location for one year.

In its first year in the Gandaki-Lumbini zone, Chemonics has set up a monitoring and evaluation system and started work with high value crop producers in Project areas. From a contractual standpoint, Chemonics has done an admirable job. The firm has met or exceeded all of the performance targets agreed with USAID. Even though Chemonics has performed well, relative to its performance targets, the evaluation team has some serious concerns about the Project, particularly in the area of sustainability under its current structure.

To date, Chemonics has focused on working with high value crop producers and has not focused enough resources on other points in the marketing chain. Part of the reason Chemonics has implemented the Project in this way is the fact that they were limited by the USAID contract on

where they could place Project resources. To address this bottleneck, the evaluation team makes several recommendations in changing the areas in which the Project invests. The primary recommendation is to reallocate Project funds to help construct (in concert with the local government and local market trade association) the Butwal wholesale fruit and vegetable market and twelve small produce collection centers in the Project pocket areas. Chemonics' economists projected a \$384,000 annual saving in market efficiency if the improvement in the Butwal market is realized. In addition to developing the Butwal market, the suggested Chemonics restructuring plan calls for more Technical Assistance focus on post-harvest handling and stronger links to the transport and wholesale industry in general.

Other key recommended actions for Chemonics include discontinuing the MARD livestock activities. The primary impetus in this recommendation is to allow project management to focus both time and financial resources on HVC activities. The evaluation team believes that the Chemonics nutrition activities will not lead to substantial sustainable change in beneficiaries' nutritional standing, given the Project has only 25 months of funding till End of Project (EOP). A second key recommendation is to cease all nutrition program activity. The evaluation team feels that, although Chemonics has achieved its deliverable targets in the area of nutrition, there are questions as to the long-term sustainability of Chemonics' impact in the nutritional sector. Nutrition projects tend to have time horizons much longer than that of agriculture projects. This fact leaves to question the wisdom of trying to couple an agricultural marketing project with a nutrition improvement activity. If USAID feels that Chemonics should continue work in the nutrition area, the Mission should shift the management of this activity to its Health Department, where qualified USAID professionals can oversee the nutrition activity and seek to extend the Project's funding life beyond its current short-term approach.

▪ **CECI Findings and Recommendations**

The CECI total budget obligation to MARD is 2.31 million USD - 1.8 million is provided to CECI under a USAID grant agreement, and .48 million is provided by CECI itself. The NGO operates in the Surkhet and Dailekh districts and is involved in a number of community development activities. CECI involvement in rural credit and irrigation development supports and amplifies its effectiveness in realizing benefits from the MARD Project. Their long-term commitment is a key factor in assuring the sustainability of MARD objectives in the operating area.

All indications are that CECI will meet its performance target deliverables in 1999. Over the life of the Project, CECI has fallen short of its targets only once. In 1998 it targeted 7,736 members in its credit and savings program but achieved 7,337 members. The following year, it more than made up for this short fall, recording 8,910 members in its saving and credit programs, about 680 more members than the 1999 target requires.

The evaluation team recommends limited changes in how CECI implements the MARD Project. To lend additional support to the private sector, the evaluation team recommends that USAID capitalize an agricultural enterprise fund for both CECI and Chemonics. This fund could be used by MARD to support specific private sector market activities that assist MARD in achieving its

goals. One other change the evaluation team recommends for both CECI and Chemonics is the dropping of livestock marketing activities within MARD. The livestock program is too small to be effective and tends to distract management's attention from core Project activities.

It is important to note that, after the evaluation team completed its first draft of this document, it was learned from USAID/N that they had recently (during the time the mid-term evaluation took place) provided CECI with a grant to promote dairy development. This new element injected into CECI's project will, undoubtedly, change the Project dynamics. With these new funds, CECI is likely to achieve a reasonable economy of scale for their dairy/livestock activity. Because of this, it is likely that USAID will agree to continue CECI's involvement in the livestock sector. The evaluation team was told by USAID staff (before departing Kathmandu) to examine the CECI/MARD Project without considering the new funding provided for the dairy development activity.

Key recommended actions for CECI include continuing nutrition program activities. The logic behind allowing CECI to continue in this area is the assumption by the evaluation team that CECI (with its long-term commitment to the Project area) will be in a better position than Chemonics to permanently affect change in dietary habits of Project beneficiaries. Even if USAID pulls funding for agricultural projects in Nepal altogether, it is conceivable that CECI would continue its nutrition activities through alternative funding sources. This, coupled with its community development approach and long-term commitment, contributes to its probable success in achieving its nutritional activity goals.

▪ **HMG Findings and Recommendations**

USAID supports the HMG with 350,000 USD in annual funding. To date, these funds have been targeted to the Rapti and Bheri zones (neither Chemonics nor CECI have MARD activities in Rapti). There is no evidence to support the case that this money has been a good investment. In reviewing the DOA / DLS two-year budget expenditures for the region, the evaluation team could only find about 830 USD of Priority Program budget line items expended on market development (used in pocket Project areas). The total general budget notes as much as 4,000 USD expended on various market development activities but this spending is spread over the eight districts and has little impact on achieving the objectives of the Project. HMG and USAID clearly do not have a shared vision on the need to address market development in Nepal. The evaluation team recommends that local currency support to HMG budget be discontinued immediately.

HMG should continue its focus on production extension and work in concert with the MARD contractor and grantee to pursue mutual objectives.

By re-structuring the MARD Project in terms of activity and geographic focus, the Project will become more manageable and improve the probability of having a positive impact on its target beneficiaries.

1.0 Objective

The objective of this report is to examine the effectiveness by which the Market Access for Rural Development (MARD) Project has delivered the Project objective to its intended beneficiaries at the mid point in the Project's funding cycle.

The MARD Project Objectives

The purposes of the MARD activity are to increase sales of high-value agricultural and livestock products by expanding markets and increasing participation by farmers and agro-entrepreneurs in high value cash crop production and marketing and to improve nutrition for children below six years and lactating mothers.

Additionally, the report examines the Project's strengths and weaknesses and makes suggestions on how to best allocate remaining funds so as to have the maximum beneficial effect on meeting USAID/N strategic objectives.

2.0 Methodology

The report was developed through the joint collaboration of consultants from ARD-RAISE Consortium, as well as the Nepal-based CMS Consulting Ltd. Pvt. The evaluation team was comprised of two US-based experts in agribusiness and agri-marketing, along with three Nepal-based consultants with expertise in horticulture, livestock and nutrition.

The team was under significant time pressures and as a result was required to employ rapid appraisal methodologies such as key informant, focus group, and community interviews. The limitations concerning reliability and validity of data gathered through such methodologies are widely recognized. Many conclusions reached by the team are on the basis of such qualitative information and are not based on quantitative analysis. As such, this report, we hope, gives a relatively accurate picture of the prevalence of reported phenomena, attitudes, perceptions, and behavior patterns, but not of their extent or pervasiveness. As is the case with rapid appraisal methodology, many of the statements contained herein are based on the responses of those interviewed and are reliable and valid from their perspective.

The evaluation team started its work by undertaking an extensive review of Project historical documents including those provided by USAID/N, the contractor and grantee. Throughout September 1999, the evaluation team worked in Kathmandu, Surkhet, Tulsipur, Butwal, Pokhara, and numerous other small rural villages interviewing Project implementers, beneficiaries and associated organizations. During the team's two weeks in the field, site visits were made to ten of the fifteen districts in which the Project operates, with the exception of several districts in the Rapti Zone and Lumbini-Gandaki, where anti-government political activity has made continued work impossible for security reasons. Additionally, the team was unable to visit CECI's activities in Nuwakot district. The team tried to contact CECI's Nuwakot office over a three-day period but was unable to confirm meetings with any of the local staff.

The team would like to express its sincere thanks to the many officials within the Ministry of Agriculture, Department heads and District level staff that provided the team with much thoughtful insight and information over the course of the evaluation.

3.0 Introduction and Background

The Market Access for Rural Development (MARD) Project is a follow-on to the Rapti Rural

MAOISTS KILL NINE

The Kathmandu Post, September 24, 1999

Kathmandu, September 23 - Maoist insurgents today killed nine persons- eight policemen and one political activist - in Rukum and Jajarkot on Wednesday.

According to police sources, seven policemen and Purna Bahadur Budhamagar, member of Nepali Congress, were killed when the insurgents attacked the police post in Mahat VDC of Rukum. Police Constable Imtiag Ahmed was killed when the guerrillas attacked the police post in Jagatipur VDC of Jajarkot. Police sources say Chief of Striking Team, Deputy Superintendent of Police Thule Raj, who was patrolling the area in Mahat VDC is missing after the Wednesday's attack.

Twenty-seven police personnel were also injured in the attack. According to sources, the guerrillas destroyed the post by setting it ablaze after the clash. There is no information about the damages on the guerrilla side ...

Thirteen policemen were injured in the Maoist attack in Jajarkot of which six are in serious condition and seven have sustained minor injuries.

Speaking in the House of Representatives today, Home Minister Purna Bahadur Khadka said 118 persons have died due to Maoist insurgent's activities after the formation of Nepali Congress government in June.

According to Khadka, the dead include 81 guerrillas, 16 police personnel and 11 civilians.

A total of 942 persons have lost their lives after the CPN-Maoists launched their Peoples War in February 1996. According to Khadka, the insurgents have killed 158 civilians and 81 police in the past three and half years while 703 rebels have lost their lives in "police-Maoist clash".

Development Project II. Both Projects share the strategic objective level outcome of sustainable beneficiary income growth through increased sales of high-value crop and livestock commodities. The Rapti Project Vegetable, Fruit and Cash Crop (VFC) component became the model for the MARD intervention to commercialize small farm agriculture. MARD employs the strategy of helping small producers to group together in order to meet the wholesale market demands for quantity, quality and regularity of supply. In addition to market development, the MARD Project also supports technology extension through HMG, grantee (CECI) and the contractor (Chemonics). Programs include improvement in nutrition and vitamin A consumption through food production, education and curative interventions; and lastly, MARD includes program activities to develop the "bottom-up planning and policy reform" capabilities of local producer/marketing groups and HMG line agencies.

MARD is a six-year Project with a life-of-Project (LOP) USAID contribution of \$7.7 million dollars and an L.O.P. HMG contribution of \$3 million. Geographically, the Project is located in Mid-Western Nepal and covers the Bheri zone, where a CECI grant and Project-supported HMG local currency programs operate; the Rapti zone where only Project-supported local currency programs are operating; and the Lumbini and Gandaki zones where a Chemonics contract is operating. In Lumbini-Gandaki, HMG programs are running with no MARD Project local currency support. In addition, the Nuwakot district near Kathmandu is included under a CECI grant with no local currency support to HMG programs. A total of 15 districts are included in the Project.

Maoist terrorist activity, beginning in February 1996, has caused major disruption of Project activities in five of the Project districts. In July 1997, Maoists kidnapped one of the Chemonics team members, and the TA team was withdrawn from two of the Project districts. In May 1998, a Chemonics team member was killed by Maoists. Since then, the team has been withdrawn from the five districts of the Rapti Zone, and relocated in the Gandaki and Lumbini zones. In the Bheri Zone where the CECI grant is operating, one of the three districts (Jajarkot) has and will receive no grant programs due to Maoist terrorism. The US Embassy security officer has imposed a travel ban on 5 of the 15 Project districts. This geographic organization has created major problems for Project implementation and management.

The Project has been running for three years, and has three years of implementation remaining.

▪ **Functional Operating Areas**

The MARD Project contemplates an interlocking web of technical and market development activities that are designed to synergistically address the problems common to Nepal's rural agricultural economy including: lack of agri-production and agri-market knowledge, poverty and health problems associated with diets low in vitamin A. Technically, these areas are addressed through programs in vegetable crop introduction, market development, livestock market development and nutrition training. In order to create an enabling environment for field activities, MARD plans its field programs with input from beneficiaries, Village Development Councils (VDC's) and district-level Government of Nepal (GON) agencies on a timely and regular basis.

The following section examines the aggregate technical approach, achievements and weaknesses of the Project in the areas of horticultural market development, livestock market development and nutrition.

4.0 Horticulture Market Development

The objective of the MARD Project focuses on increasing the sales of high-value agricultural products, particularly fruits and vegetables. The Project has several key market development activities. These include; the production of high-value crops in agro-climatic zones that allow off-season production, relative to the general market trends; the organization of production and marketing groups and the creation of rural collection centers for the consolidation of the crops. In addition, the Project seeks to link the small traders who move the product from the collection centers to district markets to larger regional markets.

CECI focuses its activities in two districts in the Bheri zone and Nuwakot, while Chemonics operates in six districts of the Lumbini and Gandaki zones. HMG is supported financially by USAID to carry out MARD activities in the Rapti zone; however, the evaluation team saw little evidence that the DOA/DLS was actively implementing Project activities.

4.1 Agro-Enterprise Development

CECI has been particularly successful in developing agro-enterprises that support MARD objectives. One example of this is in their mid-hills cabbage and cauliflower production pockets. In these pockets, farmers have nominated people from their own community to operate vegetable collection centers. The collection center operator/trader receives the produce from the grower, and transports it to district markets for sale. After the sale has been made, the trader returns and remits payment back to the farmer (less agreed-upon transport and brokerage fees). To date, farmers have been satisfied with this arrangement. It allows them to sell their crops without having to make the arduous journey to the district markets themselves. The trader benefits because he/she is able to consolidate enough product to rent tractors-trailers to haul the produce to market. This is much more cost-effective and time-efficient than individual farmers walking their produce to market in a doko basket.

Chemonics has only been working in the Lumbini Gandaki zone for about a year. It has developed relationships with farmers who are now starting to produce cabbage, cauliflower and tomatoes for off-season markets. In interviewing several of these production groups, the evaluation team found several to be very enthusiastic and economically enlightened as to the benefits of off-season marketing, packing and sorting, as well as sensitive to the need for volume production to achieve transport economies of scale.

4.2 Linkages to Wholesale Market

In addition to creating links to wholesale markets via farmer/traders, the Project has been able to draw in independent traders. Chemonics has noted that the traders from the Butwal market purchase produce directly from their pocket areas. Butwal wholesale market is the second largest fruit and vegetable market in the country. Produce that flows into this market moves all over Nepal. Chemonics has worked with farmer/traders, as well as traders from the Butwal market, and local government. One of their key activities has been post-harvest handling/training. The Project is also working to organize the improvement of the Butwal market through support from USAID.

Each year, about 51,000 Mt of produce passes through the Butwal market. Chemonics estimates that with a 150,000 USD investment in improved infrastructure at the market, market efficiency will increase by 0.5 NPR per kilo. This equates to a 7.38 USD cost savings per ton sold. When multiplied by 52,000 Mt (Chemonics estimates after market improvements are made, volumes will increase by 2%), the total value of the improved market efficiency will be 384,000 USD per year.

Chemonics had detailed discussions with Butwal's mayor, who has pledged to cooperate in the market's improvement. The value of the city-owned land on which the market is located is estimated to be 400,000 USD. In addition, the City has agreed to make drainage improvements around the market if USAID invests. Chemonics has also reached a tentative agreement with the Butwal Wholesale Market Traders Association for the long-term operation and management of the market.

Where Chemonics has been focusing on larger markets such as Butwal, CECI has been focused on rural production and establishing market linkage. They have had success in the Dailekh high-hills and the mid-hills of the Surkhet districts. In these areas, farmers have begun following their maize and rice crops with cabbage, cauliflower and beans. According to farmers in these areas, traders from the Terai purchase their product in the off-season and transport it to Nepalgunj market.

4.3 Market Information Activities

MARD is involved in various market information activities. The highest profile activity, to date, has been the development of price information boards. Chemonics has placed six of these poster boards in pocket areas and update them several times a week with price information from several regional markets. The boards seen by the evaluation team were located near the roadside at points where trucks and buses load produce. These are logical locations for price boards, as they are consolidation points for local farmers.

In addition to price boards, MARD has undertaken a number of other market information activities, including the organization of field trips to India and Kathmandu to expose rural traders and farmers to the broader market. Additionally, Chemonics has prepared a seed market directory for the use of its growers, and developed several studies on improving the Butwal market and increasing market competition.

There is some duplication throughout Nepal on market information systems. UNDP is said to be funding a nation-wide market information system and farmers report that prices can be obtained from radio broadcasts, although not all farmers have radios. As currently operated, the MARD market information component is not sustainable. Nevertheless, it provides valuable training to rural farmers and traders who otherwise would not have access to market pricing information. As these traders are introduced to the pricing systems, they will become more savvy and should be able to obtain timely price information from other sources. At this point, MARD is simply providing rudimentary education to its clients in the MIS area.

4.4 Production, Consolidation and Post-Harvest Handling of HVC

MARD has been successful in demonstrating that high yields can be achieved in off-season crop production, relative to historic yields. The following chart examines yields on Chemonics' demonstration farms versus average yields in Nepal. In all cases, demonstration yields were significantly higher.

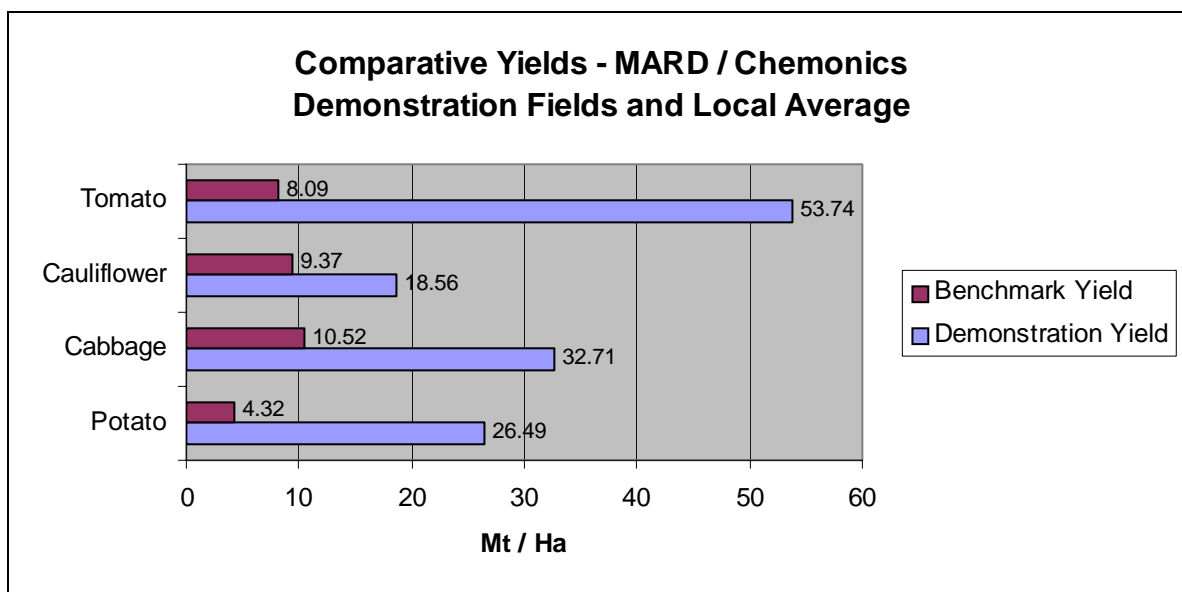


Figure 1: Source: MARD / Chemonics, Butwal

There is concern by the evaluation team that some farmers may be planting outside of their production window. The team observed tomato farmers who were having difficulty with fungal pathogens on their crop, and were forced to spray repeatedly to control the disease. This indicates that they may have planted the crop too early, and are finding that their tomatoes are maturing during the monsoon season. One footnote on this point – in 1999, the monsoon came late and stayed longer than usual. Farmers reported that September rains were heavier than normal. Chemonics has conducted 438 on-farm crop demonstrations. Most of these have involved potatoes, cauliflower, cabbage and tomatoes. According to Chemonics' project staff, 90% of these demonstration plots have been successful. Some crop failures were reported as a result of unsuitable new varieties.

CECI also works with farmers to introduce new hybrid varieties and improved technology, such as drip irrigation. In addition to their on-farm activities, they have developed six collection centers in their pocket areas. CECI appears to be having more success in developing collection centers than Chemonics. Undoubtedly, part of their success is a function of time. CECI has had two years to set up its collection centers, whereas, Chemonics has had only a year.

During interviews with farmers, a number of interesting facts and observations were highlighted, some of the more significant included frustration with the Haat Bazaar system. Farmers and traders felt that the bazaars lacked the proper infrastructure and management necessary to maximize their profits. In the case of Chemonics, in particular, there seemed to be weaknesses in the linkage between farmers and Haat Bazaar traders. Chemonics, to date, has focused heavily on production/extension. The Project is weak in addressing bottlenecks in the marketing system along various points in the marketing chain. It is unlikely that the local staff will be able to develop and implement remedies for this weakness. Because of this, Chemonics should rely heavily on short-term consultants to support their local staff in this area.

Using an Enterprise Fund to Introduce Improved Post-Harvest Technology

One of the recommendations made in the report is to create an agribusiness enterprise fund. Post harvest loss reduction is a good example of how this fund can be applied. Trader groups and/or farmer groups would be provided no interest loans or grants over one growing season to purchase reusable plastic produce boxes. As the season progresses, the group receiving the boxes would be required to remit back to the Project the cost of the boxes (in the case of the no-interest loan). The group members would cross insure the loan, much in the same way that CECI's credit activity operates. This is a simple activity to manage, given there is no interest due. The board of the fund could include both Project staff and Project stakeholders.

There are already some plastic produce boxes being used by the Project. CECI has purchased 400 such crates, and is working with its pocket area growers to incorporate these into the post-harvest handling system. This is an extremely good investment for farmers, as post-harvest losses in crops such as tomatoes are reported to be 20% - 30%. Chemonics provided 462 farmer/clients with 19 on-site marketing training programs, which addressed post-harvest handling, sorting, and market management. The evaluation team observed that farmers seemed to have retained some of the knowledge learned in these training programs. One farmer group working with Chemonics stated they were sorting tomatoes by size before shipping them to market, and they were very aware of handling issues such as picking times and keeping the product out of the sun after harvest.

The evaluation team was unable to visit any of the vegetable seed producers working with the MARD Project. These pocket areas where seed is produced tend to be more remote and, given the short amount of time the evaluation team had, it was decided to forego site visits. CECI is working with two groups of seed producers. Each group produces about a ton of seed (usually radish, broad leaf mustard, peas, onions and beans). Given the high local demand for seed, this is a very small amount, but it provides the growers with high returns per unit area produced. Both Chemonics and CECI have successfully linked seed producer groups with seed retailers in Nepal using contract production agreements.

4.5 Women Participation in HVC

Throughout Nepal, women play a primary role in all farm activities. With the exception of heavy work such as plowing, women are usually responsible for getting the work done. Chemonics reports that 27% of its total participants in HVC programs are women. CECI estimates that nearly 50% of its program activities include women participation.

The evaluation team met with one of CECI's women HVC farmer groups in the middle hills. The group was very enthusiastic about the CECI activities and felt the Project was successful in bringing new technology to their group, training participants and increasing incomes.

CECI's overall program includes HVC, irrigation development and credit. All of these activities are critical to the objectives of increasing household incomes. Many of the women informally

asked (during field interviews) reported that they were in charge of marketing HVC produce. The implications of this are significant, in that the women can directly benefit from MARD's HVC programs when they are actively involved in the marketing of the crop.

4.6 Technology and Extension

One of the debates often heard in Nepal's agricultural circles these days is the benefit of hybrid seed over open pollinated seed. The paradox that donors, implementers and farmers are dealing with can be summed up as follows: hybrid seed, when farmed intensively with proper soil preparation, irrigation, fertilization management, and pest management, will yield higher volumes of produce over open pollinated varieties. Conversely, open pollinated varieties will often yield higher when inputs, such as fertilizers (chemical or organic), pesticides and proper irrigation management, are in short supply. The question for the MARD Project in its approach to technology and extension is, "Can the Project effectively induce sustainable change in farmers' fertilization, irrigation, and pest management practices?" If the answer is yes, MARD is pursuing the proper path of introducing hybrid seed. The evaluation team agrees with MARD's philosophy in this area in that the Project's beneficiaries can be trained to improve cultural practices to a point to which they will see an economic benefit from using hybrid seed.

It is worth noting that, historically, HMG has not encouraged the use of hybrid seed. The government technically requires all seed brought into the country be tested by the government and judged against standard varieties. This is the typical European-type seed introduction program. This program does not work very well in Nepal, given its highly porous borders with India. India is a major producer of hybrid seed. Much of the hybrid seed used in North America is produced in India, particularly hybrid tomato seed. Commercial seed sellers and farmers frequently procure their seeds in India and ignore the Nepali testing program. Technically, this is illegal under Nepali law. Seed testing programs are time consuming and cumbersome. This is well documented in other countries having such programs. They are also open to corruption by officials who require kickbacks before approving a new variety to be sold in a country.

During the time the evaluation team was in Nepal (September 1999), it was reported that the government had changed its policy on hybrid seed use. The new policy was to allow official testing of certified seed and official support for the production of hybrid varieties. From a policy standpoint, the evaluation team views this as a positive move. Even though hybrids have not been officially listed as approved varieties to be sold in Nepal, they can be bought in many shops and the MARD Project is distributing hybrid vegetable seeds. Again, in technical terms, this is a violation of Nepal's seed regulations. However, when this was pointed out to DOA staff, no one in the DOA questioned the appropriateness of MARD's extension work with hybrid seed.

Integrated Pest Management (IPM) is another activity that donors and implementers like to promote. Realistically, it is impossible to have a true IPM program in Nepal. Background data on degree-days, insect life cycles, pest and predator relationships, sampling methods, etc., has not been developed for Nepal. Given Nepal's complex agri-climatic environment, collecting degree-day model information and disseminating this information to farmers who know how to make use of it would be impossible today. At best, farmers in Nepal can be trained on using

certain tools from the IPM toolbox, but it is absolutely impractical to assume that farmers in Nepal can be trained and encouraged to implement in true IPM methodology.

As farmers begin planting more and more vegetable crops, the issue of crop rotation will become increasingly more important. Horticultural advisors with MARD have been recommending a three-crop rotation among vegetable plantings. The concern with this recommendation is that three crops in Nepal can be grown on the same plot of land. In effect, farmers may only have eight months between similar vegetable crops. A more prudent cropping pattern would be to practice a three-year crop rotation; that is, vegetable crops (within the same family) should not be planted on the same ground more often than one year in three. For example, tomatoes and potatoes both being in the nightshade family, should have two full cropping years of non-nightshade years between plantings. The MARD horticultural teams discussed this with the evaluation team's horticultural experts and agreed to these recommendations.

Some of the other activities that the horticultural extension program is addressing include improved cultural practices in citrus and distribution of citrus seedlings. To date, CECI has been the only implementer involved in the distribution of citrus seedlings. Over the first half of the Project, CECI has distributed over 12,000 seedlings (mainly citrus). A second tree crop CECI is working with is Asian pear (*Pyrus Pashia, Ham.*). The varieties of Asian pear currently grown in Nepal are firm, with a woody flesh, low to medium sugar levels, and less juicy than improved varieties. The Asian pear is one of the most expensive tree fruits in the world. To help improve the local plant material, CECI has been working with farmers to bud graft new scion material onto existing trees. The new bud wood should produce fruit in approximately three years. Although this is a long-term activity, the long-range value addition gained by top-working these trees is very significant.

CECI is also working with farmers to develop irrigation systems. These systems include both sprinkler and drip irrigation technology. A reliable source of irrigation and good irrigation management is essential to the long-range success of any high value horticulture program designed to take advantage of off-season markets. CECI has received a great deal of interest from beneficiaries and has undertaken numerous projects that involve development of irrigation systems for small water user groups (up to 90 households per group).

In the area of post-harvest handling and market linkages, MARD has primarily addressed through training programs. UC Davis has been involved in a number of these programs, but more attention needs to be paid to individual agribusinesses. The evaluation team visited several wholesale traders in the Terai who purchased vegetables from Rapti and other middle hill locations. The storage and sanitation conditions of these wholesalers' storage facilities were rudimentary at best. The MARD implementers should look for ways to work with specific traders to improve storage, transport, and grading systems, as well as providing one-to-one training on loss reduction. In this way, MARD will broaden its focus from its current concentration on production to a wider whole market intervention activity.

4.9 Private Sector Involvement in Extension Delivery

Both Chemonics and CECI have targeted producers and small traders as their primary beneficiaries. Chemonics and CECI have also worked with numerous agro-vets (commercial firms that retail agricultural and veterinary inputs). Agro-vets have been an important client in that they supply the hybrid seed used by vegetable producers. Chemonics has tested a number of different varieties in demonstration plots over the past several years, and made recommendations to the agro-vets as to which varieties are most suitable to the local agri-climate/environment. Agro-vets have also been trained in areas of vegetable crop cultural practices and post-harvest handling. This was done so that they could pass on this information to their customers (the HVC farmers).

In 1998, Chemonics organized a workshop for the private seed companies and seed producers. This led to a direct link between seed producers and seed traders, and assisted MARD in launching its vegetable seed production system. In the future, MARD needs to identify and work with large seed companies willing to financially support demonstration plots in the pocket areas. Seed companies worldwide grow demonstration plots to market their latest varieties. Although there are some legal issues involved in seed certification, it would be very useful if MARD could attract some of the larger vegetable seed companies to develop these demonstration plots in the Project zone. The benefit to the seed company is market expansion, and support from MARD in establishing and operating these demonstration plots during the next two years. After MARD is finished, if the market is large enough, the seed companies will continue their demonstration plots at their own expense; thereby ensuring a constant stream of improved varieties being made available to area farmers.

MARD implementers should also look at the larger chemical companies as well for technical and financial support. Monsanto, for example, has a worldwide program for micro-credit. Other large firms, such as Zeneca, will supply demonstration and training to users as part of their marketing programs. As most of these activities need to be coordinated through regional or head offices, the Project's senior staff needs to get involved in recruiting resources from these multi-national companies to backstop MARD. The multi-national firms can provide a conduit through which new technology can continually flow into the MARD area once EOP has been reached.

5.0 Livestock Market Development

None of the three Project implementing agencies, MARD/CECI, Chemonics and HMG/N, has done much work towards market development for selling livestock products. As a whole, the small volume of livestock products produced at farm level is inadequate for organized market development. Small quantities of livestock products produced after implementation of programs through MARD/CECI and Chemonics have been marketed locally by the farmers themselves. It was reported that the livestock products generated through programs implemented by HMG/N district level line agencies have been marketed mostly by farmer themselves, organized producer's societies and individual traders.

It is not clear who is responsible for market development. HMG/N line agency personnel say that market development activities have not been included in their programs and that budget has also not been allocated. Furthermore, they claim that there is no posting of trained manpower in the district level offices for market development. Chemonics has conducted market studies, developed a market information system (MIS), collected price information and organized training and tours. However, Chemonics has expressed concern for not having funds for market hardware development.

MARD/CECI and Chemonics have not initiated livestock enterprise development in their Project districts. Farmers' groups are still too immature to form an association or federation for organizing marketing of livestock products produced under the Project. At present, livestock products produced in the Project districts are sold locally by the farmers themselves.

With technical support from the Department of Livestock Services (DLS), some milk collection centers have been established in potential pockets. Farmers' groups of these potential pockets have been associated into milk producers' associations responsible for marketing of liquid milk by establishing collection centers for collection of milk from the producers and transporting it to the chilling center managed by the Dairy Development Corporation (DDC)

Young piglets at weaning are usually sold by the producers locally to other interested farmers of the Project sites. There is still a high demand for weaned piglets in most of the Project sites except in Kaski where piglets are produced in larger number and marketing has become a problem. Fattened pigs are usually sold to the traders who eventually sell either live or after slaughter at bigger market centers. Marketing of broilers and eggs is done by the producers themselves supplying to the shopkeepers, meat traders, hotels and restaurants. In Rupandehi and Nawalparasi, some of the producers have opened their own shops for selling frozen broilers. In Nawalparasi, Rupandehi and Kaski the producers obtain day old broiler chicks and starter ration from the hatchery on cash payment while the finisher ration is obtained on credit. In such a situation, the hatchery is responsible for marketing all broilers at disposal age.

5.1 Women's Participation in Livestock Production and Marketing

Both men and women are actively involved in livestock and poultry production and marketing of farm products. Emphasis has been given to include more women's participation in all Project districts. In the case of MARD/CECI, women's participation has already reached an average of 53 percent. Efforts are still continuing to increase their participation. In MARD/Chemonics, women participation in livestock development activities ranges from 25 – 28%. In case of HMG/N programs, it is a general policy to include about 25% – 35% women participation in livestock development activities in all eight Project districts.

5.2 Livestock-Technology and Extension

Livestock development was not included in the original CECI grant proposal. The CECI livestock component was introduced in small scale only at the request of the farmers a year into the grant. The livestock component was included in the grant because livestock is an integral part

of local agricultural farming systems and can contribute directly to income generation in most rural households. So goat, pig and poultry production was then included in the CECI pocket development package. In the case of goats, upgrading of indigenous stock with Ajmeri, Sirohi, Jamunapari and their crossbreed have been attempted. This is a very slow process of development. Improved Pakhribas black piglets and Landrace were introduced for pure breeding, crossbreeding and even upgrading of indigenous pigs. Goats and pigs distributed under MARD/CECI have started producing improved genetic material and are sold locally to meet the demand of other needy farmers of the sites. This has reduced the requirement for continuous importation of breeding stock from outside. Commercial broiler production has been initiated in and around district headquarters. Dual type New Hampshire and Austrolop eight-week old-brooded chicks from Khajura Poultry Farm, Nepalgunj, have been distributed for egg production in the Project pockets. Poultry feed marketing has not been developed, and as a result these birds are fed locally prepared feed. In such a situation, availability of adequate nutrients could be questioned. Attempts have also been made to increase fodder and forage production by introducing a few appropriate fodder species such as badahar (*Artcarpus lakoocha*), a small quantity of seed-broom grass (*Thysonaleana maxica*), napier (*Pennisetum purpureum*), stylo (*Stylosantes spp*), and white clover (*Trifolium repens*). The target of livestock development activities is not fixed and a budget is not allocated under the CECI grant.

MARD/Chemonics has implemented only a few livestock development activities, mainly in animals, such as poultry and pigs, with short production cycles. It has supported group members through organizing training and providing technology, without a view towards cost effectiveness. Program targets are not fixed and the budget is not allocated. In most cases, training in pig and poultry production has been provided to large farmers who have already been involved with improved pigs and poultry (broilers and layers) for several years. In Kapilbastu, one on-site poultry production training session has been completed, but still no cooperators have been identified to start poultry operations. In other districts, the trainees introduced a minimum 100 to a maximum of 1000 broilers in two to three batches. Milijuli poultry farm of Rajahar, Nawalparasi has introduced up to 5000 layer chickens at a time. High mortality, lack of management and feeding unbalanced feed are major problems. Monitoring from the TA Team has been impeded by disruptions to the project. Large farmers from Nawalparasi, Rupandehi, Palpa and Kaski have been mainly benefited. Poverty alleviation in the rural sector is not at all targeted.

In the case of pig production, on-site training, on-site demonstration and resource center establishments have been initiated at Kaski, Palpa and Nawalparasi. Existing pig growers were selected for on-site pig training. On-site demonstration has been done in 3 to 5 locations with fattening pigs. In the resource center, male piglets from the same parent have been introduced. The complication of inbreeding has not been considered. There is a problem of selling piglets in the Kaski pockets. Pig producers are expecting MARD's support in marketing of these surplus piglets. In Syanja and Kaski MARD/Chemonics support in terms of training and technology has benefited only a small number of communities.

HMG/N has implemented the following programs in eight districts – Dang, Salyan, Pyuthan, Rukum and Rolpa of Rapti zone and Surkhet, Dailekh and Jajarkot of Bheri zone:

- Establishment of livestock resource centers
- Commercial livestock development
- Income generation
- Poverty alleviation including women development
- Rural self – reliance and
- Strengthening commercial programs.

The series of activities implemented for all the above programs are essentially identical. All these programs are target oriented and budgeted using DLS budget norms. In the villages, many farmer groups have been formed for implementing various activities. The same farmer has become member of several groups, causing confusion and complication. Groups formed under livestock development have generated considerable savings for providing loans to members for initiating income generation activities. Credit institutions and commercial banks are unable to provide credit for livestock as required by the farmers in most of the hill districts.

In the absence of processing, packaging and marketing the producers are unable to realize the full income growth possibilities from livestock.

Resource centers established on buffalo, goat and pig through HMG/N programs are producing improved genetic materials for distribution to the needy farmers of the Project districts as well as in the neighboring districts. It has also supported income generation in rural pockets.

Both broiler and layer poultry production at and around district headquarters has been successful. People have gained knowledge and experience and as a result commercial poultry production is developing at and around market centers. Eggs and broiler birds are mostly sold at district headquarters and local markets.

▪ **Achievements in Livestock Activities**

In the case of the CECI grant and the Chemonics program, targets of activities related to livestock development are not fixed. According to the available information the details of achievements are as follows:

Table-1: Details of Achievements under MARD/CECI, 1998-99					
Activities	Unit	Surkhet	Dailekh	Nuwakot	Total
Distribution of male/female goats	No	78	93	57	228
Distribution of male/female piglets	No	38	26	8	72
Distribution of poultry – broilers	No	1750	1500	650	3900
Distribution of poultry - layers	No	1122	1923	473	3482
Distribution of fodder saplings	No	12750	16000	6250	35000
Distribution of grass seeds	Kg	2	2	1	5
Veterinary assistant trained	No	7	13	4	24
De-worming in animals/birds	No	8725	10019	6256	25000
Vaccination	No	8725	10019	6256	25000
Treatment	No	5228	2111	1661	9000

District-wide VDCs covered, community groups formed and total households covered in MARD/CECI are as follows:

TABLE – 2: District-wide VDCs Covered, Community Groups Formed and Total Households Covered in MARD/CECI				
Activities	Surkhet	Dailekh	Nuwakot	Total
VDCs covered by the Project	11	11	5	27
Total No. of Community Groups	61	125	64	250
Total Households Covered	1450	1050	500	3000

▪ **Livestock programs accomplished by Chemonics in 1997/98**

- Forage grasses on-farm demonstration for summer and winter – conducted
- One feed mill industry established for poultry private sector
- Two resource centers for pig established
- Giriraja breed of poultry promoted in rural areas
- One commercial poultry production training conducted for eight farmers
- One training session on dairy products processing conducted for eight farmers.

▪ **Livestock programs accomplished by Chemonics in 1998/99**

- Seven pig and seven poultry on-farm demonstrations conducted
- Three resource centers for pigs were established
- Ten livestock on-site training programs were conducted for 141 farmers

Note: In both MARD/CECI and MARD/Chemonics, targets were not fixed and budget not allocated for implementing livestock development activities. These activities have been implemented in such a small scale that resulting achievements do not justify the cost of implementing the livestock programs.

Summary of livestock development activities implemented by HMG/N line agency is as follows:

Table 3: Summary of Activities-Targets and Achievement of HMG/N Livestock Program in Eight Project Districts					
Activities	Unit	Projected Targets	Actual Achievement	Projected & Actual Difference	Actual % of Projected
Buffalo – male/female distribution	No	121	95	26	79
Cows distribution	No	17	12	5	7
Goats – male/female distribution	No	291	305	+14	10
Ram distribution	No	33	33	-	10
Piglets distribution	No	73	73	-	100
Poultry distribution	No	10250	7792	2450	76
Angora rabbit distribution	No	80	80	-	100
Ass distribution	No	4	4	-	100
Overall % of Achievement					96.8

These inputs have been distributed during implementing of HMG/N livestock development programs. In order to support these programs, the following activities have been implemented:

- Animal breeding program through artificial insemination (AI) in large animals
- Feed management (distribution of grass mini-kit, urea-molasses blocks, annual grass sowing, napier (*Pennisetum purpureum*), broom grass (*Thyssonaleana mexica*) sets
- Animal health services, such as vaccination and treatment
- Organizing infertility camps
- Training farmers in related fields.

Total production per district is estimated by HMG/N for each program year. Total attribution is claimed as a result of the annual HMG programs. In 1998/99, it is estimated that there was a production of milk – 11,307 Mt., meat – 43,141 Mt., ghee – 8,506 Mt., egg – 34.4 million and wool 248 Mt. This year a total of 55,425 live goats have been exported to Kathmandu, Pokhara, Nepalgunj and Butwal. Similarly buffaloes – 3,106, pigs – 274 and poultry – 13,794 have been exported. Nearly 12,431 Mt. of milk has been exported from Surkhet and Dang to DDC Lumbini

Milk Supply Scheme, Butwal. Similarly 1,908 Mt. ghee, 25 Mt. wool and 8,603 woolen blankets have been exported.

From these exports, the Project's district farmers earned an estimated 32.0 million rupees from the sale of buffaloes, 109.0 million NPR from goats, 1.3 million NPR from pigs, 1.6 million NPR from poultry, 12.4 million NPR from selling eggs, 32.1 million NPR from milk, 92.7 million NPR from ghee and 15.5 million NPR from woolen blankets, making a total of 28.9 million NPR direct net benefit. The total HMG budget allocated is 24.5 million NPR, which includes program budget and the administration budget. If the entire volume of estimated exports is attributed as a direct result of HMG program inputs, the cost benefit ratio would be 1.2:1. This, however, is not a realistic estimation of the program's impact.

5.3 Suitability of Project Technology

Livestock development activities implemented under MARD/CECI are having a minimum impact. Upgrading goat breeds on a smaller scale, involvement of poor male and female farmers (who cannot afford to maintain both male and female breeding stock) in pig production, introduction of Giriraja poultry in the remote hills, and introduction of New Hampshire and Austrolop poultry for commercial production are not appropriate. There are many other commercial breeds of broilers and layers available for commercial purposes.

Maintaining poultry and pigs with locally mixed feed prepared from local ingredients is unlikely to support their nutrient requirements, and as a result these are growing slowly, producing fewer eggs and unable to provide economic benefit as envisaged. No balanced feed marketing or manufacturing in the current Project districts has been initiated. Earlier in Rapti the Project did promote local manufacturing and marketing of feed which was energetically pursued by a local feed manufacturer at Tulsipur even after Chemonics moved to Butwal.

Goats and pigs have started producing their offspring. At present, these genetic materials are sold at Project sites only, and generate some household income. It was reported that the breeding boars have been mostly disposed after mating the sows, as farmers are unable to maintain both male and female pigs at the same time. It is inappropriate to dispose of the breeding boar. No mechanism has been developed to retain breeding stock for several years to exploit maximum benefits. In Nepal, improved genetic materials for breed improvement are not easily available.

In case of MARD/Chemonics, only training and technology in poultry and pigs are provided. Mostly large farmers are supported. Most participants are poultry and pigs farmers, who have been previously supported by HMG/N regular programs. Farmers indicate that the training is technically good and serves as refresher training. Here also, introduction of Giriraja poultry in the hills and introduction of dual type New Hampshire and Austrolop for commercial poultry production is not appropriate. The feed mixing plant at Tulsipur is not operating these days.

Livestock development programs implemented by HMG/N are unlikely to have produced the impact claimed during the first two years of MARD implementation. The available resources are utilized for implementing many activities spread thinly over the Project districts. It might be

difficult to justify the appropriateness of all these programs in terms of economic generation. The targets set for most of the activities have been achieved. The qualitative and quantitative benefits and economic generation at the local level have been estimated by using assumptions attributing the entire production of a district as a direct result of HMG programs. The target of training and tours for various activities has also been achieved.

5.4 Livestock - Quality of Extension Delivery

Quality of extension delivery becomes very important as it relates to success and failure of the programs, leading to economic gain and loss of the poor farmers. There is sufficient room to doubt the quality of extension deliveries made by MARD/CECI and Chemonics. Selection of New Hampshire, Austrolop and Giriraja breeds of poultry and Pakhribas black pig for extension is not appropriate for commercial scale production. These are not commercial breeds, and their estimated productivity and expected economic returns are unrealistic. Giriraja poultry cannot survive in the hill environment. These birds do not receive sufficient food to eat and were even exposed to predators. The Giriraja breed is vanishing slowly. In the case of poultry, high mortality during early brooding and low egg production is manifest while in pigs, less milk yield and infertility/sterility are observed. For example, high chick mortality due to coccidiosis and Gambaro resulted during six to eight weeks brooding period at Tulsipur and infertility in pigs was reported at Mehalkuna site of the Chhinchu pocket in the Bheri Zone.

In case of HMG/N, the quality of extension delivery is not known. The performance records of each activity were not available for examination.

5.5 Private Sector Involvement in Extension Delivery

Basically, the Project has supported group members of the working areas. The participating male and female farmers have just started receiving economic benefit by selling locally produced extension materials. Private sector involvement in extension delivery is rarely observed in the rural areas, while involvement in broiler production at and around district headquarters is remarkable. They are involved in egg production, as well as introducing commercial poultry breeds. Marketing of broilers and eggs is also done by the private sector at district headquarters. Marketing of feed ingredients and balanced poultry feed has yet to be initiated. Goats are usually marketed by small traders. These goats are eventually transported to bigger markets in the country. Agro-vet shops opened by trained Veterinary Assistants and the private sector are providing services in selling vegetable seeds, insecticides and other chemicals, along with veterinary medicines.

6.0 Nutrition Improvement

The objective of the MARD nutrition activity is to improve overall nutritional status in the Project areas. The nutrition improvement will be achieved by promoting the sustainable production and consumption of Vitamin-A and other nutritionally beneficial foods and conducting nutritional education activities to improve maternal and child feeding practices. The

activity will help to improve the nutritional status of children by decreasing the wasting and stunting and increasing the intake of nutritious food by the pregnant and lactating women.

The Chemonics nutrition program is complementary to existing nutrition programs and the Project's market development objective. It is a food-based nutrition program that should be much more sustainable than other programs currently being implemented. As the program has been moved and essentially restarted from scratch in Lumbini-Gandaki it is too early to assess its impact.

CECI was scheduled to start its nutrition program in 1997/1998. The nutrition program was delayed until the second year of the grant, mainly due to delays in the completion of the baseline survey report by the USAID Regional Agribusiness Project (RAP). The baseline survey was not useful to CECI/MARD because information was not disaggregated to the level of the Village Development Committees (VDCs) where CECI planned their programs. CECI/MARD had to conduct a separate baseline survey, and it took almost six months to finalize the report. The nutrition program implementation began only recently in March 1999. Those responsible for implementing the nutrition activities include Nutritionists: an Assistant Mid-wife and Nurse in both the districts with health backgrounds, and 14 and 13 Social Mobilizers (S.M local) in Dailekh and Surkhet districts respectively. Most of them are from the same area and are familiar with the community. There are two sub-grants under the CECI grant:

CAPRED, which works in 10 VDCs of the Surkhet district, and SAPPROS, which works in 11 VDCs of the Dailekh district. The major nutrition activities of CECI/MARD are as follows:

- Nutrition Campaigns: - are carried out through magic shows, street dramas, posters and flip-charts.
- Nutrition Training: is regularly provided to the CECI staff NGO partners, Social Mobilizers and farmers.
- Positive Deviance: - is to find examples of successful practices on good health, good care and good food from poor families and replicate these to other poor families that have malnourished children.
- Curative intervention: - is involved during the Positive Deviance program, and second and third degree malnourished children are referred to the health clinic in the following sections.

6.1 Progress Towards Improved Nutrition

An increase in the household consumption of Vitamin-A and iron-rich vegetables has been observed in the HVC growing areas. An average of 10% to 15% of the total production of cabbage, cauliflower, potatoes, peas, beans, broad leaf mustard etc. has been consumed by the farming households. It clearly indicates that the HVC producing pockets, and participating households have increased the intake of Vitamin-A and iron in their diet. The people in Mehelkuna (VDC) in Surkhet used to buy "Nutri- Nugget", and this was cooked with potato as a daily vegetable. Now the people consume a variety of green vegetables instead of relying on Nutri-Nuggets.

- There has been enthusiastic participation of women in the HVC program and some have formed their own groups. These women also have kitchen gardens, and consume Vitamin-A, iron rich vegetables from the farm produce.
- An increase in the level of income from the sale of vegetables has given households the ability to purchase necessary cereals, legumes and even some animal products. The HVC farmers have been buying cereals and legumes for their consumption.

6.2 Pregnancy Risk Reduction

Most women in the Project area seem to be knowledgeable about the need to consume fruits and vegetables to obtain Vitamin-A and iron in their diet. Some of the literate women are consuming Vitamin-A rich foods and vegetables during pregnancy and lactation. However, there are large numbers of women, suffering from Vitamin-A deficiency and night blindness, who still adhere to the taboos of “hot” and “cold” foods in the HVC pocket. These women need a focused nutrition education program in order to avoid high-risk pregnancy and this should be carried out in the HVC pockets. Male members of the family also should be oriented regarding the importance of Vitamin-A and iron during pregnancy so that they will purchase Vitamin-A and iron rich foods, fats and oils with the increased income from the sale of vegetables.

6.3 Lactation and Neo-Natal Health

The knowledge and the information on the need and availability of high nutrient content foods, such as protein, has been provided through the trained CEAPRED and SAPPROS Social Mobilizers from the Project in Surkhet and Dailekh districts. In addition to this, Social Mobilizer refers the lactating mother for neo-natal check-ups in health institutions.

6.4 Improving Nutrition for Children Under Five

Most children under the age of five are malnourished in terms of stunting (49.9% and 69.9% s.d. + -2), and wasting (57.4% and 75.2% s.d. + -2) in Surkhet and Dailekh respectively.¹ Nutrition problems such as Vitamin-A and anemia (iron deficiency) are also common among children under five in both districts. The Project has introduced an education program which includes major topics such as: the knowledge and usefulness of consuming Vitamin-A and iron rich food; breast feeding for six months; weaning, and food preparation for infants, diarrhea and hygiene.

6.5 Positive Deviance (P. D. Pilot)

The P.D. approach stresses the development of appropriate food packages based on locally available foods. Training on the P.D. approach has been completed and the Social Mobilizers are going to begin implementation in 3 VDCs (two wards) in both districts. This pilot trial will be extended if it is successful. More than 70% of children under five suffer from second and third degree malnutrition, and it will be a difficult task to rehabilitate such a large number.

¹ A base line survey report for Nutrition Intervention Program, NTAG January 1999
ARD-RAISE Mid-Term Evaluation

6.6 Nutrition Education and Extension

The nutrition education training manual developed by CECI has been a basic reference for providing nutrition education to CECI's NGO partners and Social Mobilizers (SM) who work as extension agents at the field level. The SMs are imparting the nutritional knowledge to the community on Vitamin-A and iron rich fruits and dark leafy vegetables.

6.7 Nutrition Message and Promotion

Nutrition has been incorporated in all Projects training programs, such as saving and credit, cash crop production, and literacy courses. The program uses schools and clubs as nutrition-message-promoting agents once they are exposed to the nutritional knowledge and training. The nutrition messages focus on pregnancy risk avoidance and consumption of nutritious food to lactating women and children under five. However, the CECI nutritional message promotional activity should be focused in the HVCC growing pockets, as the Chemonics program is, so that the impact of nutrition improvement could be seen within given time frame of the Project.

6.8 Nutrition Training

Nutrition training has been included as a regular annual program. The testing of training materials is generally carried out in the field and finalized as a training manual. The training has been provided to the CECI Project Management Unit Staff and NGO partners on the different types of intervention such as street dramas, minimize post-harvest losses through sun-drying and preservation through fermentation and drying. The nutrition education training is not a focused program. It should be carried out in the whole HVCC pocket area to the both male and female members of the groups, and it would be good if the training is carried out in a mixed group with both male and female participating in same group.

6.9 Nutrition Education Linkage to Horticultural Development

The national HMG Vitamin-A capsule feeding program is carried out twice in a year, and this helps children avoid night blindness. This program does not address the night blindness problem of pregnant and lactating women, and it is a short-term remedial program. Kitchen gardens may be a good promotional activity to raise the awareness for the consumption of Vitamin-A and iron rich fruits and vegetables, but it is not itself a nutrition improvement program. It is a food-based solution to nutritional problems, however. Such programs can be successful if combined with training that gives beneficiaries practical information about their nutritional needs and potential for alleviating some health problems through an improved diet within the household. About 10% to 15% of the fruits and vegetables, which are grown for the sale, have been consumed directly by the farming households.

6.10 Demonstration Households and Kitchen Gardens

The criteria and guidelines for selecting demonstration households are tied to production pocket selection criteria and production site selection criteria as presented on the Chemonics' annual

workplans. They have been provided to the Motivators and Coordinators in Kapilbastu and Rupendehi, and the final selection is done by the Chemonics' Nutrition Advisor in Butwal. The main criteria for the selection of the demonstrative household is that the household must have either a pregnant or lactating mother or under five children, and access to water for a kitchen garden. The criteria do not seem to have been followed and selection is still done on an ad hoc basis.

Although the evaluation team could not interview a representative sample of households, key informants noted that most of the demonstration households with kitchen gardens are either big or medium landholders, Brahmin and Chettri, except for a few Yadavs in Rupendehi and Kapilbastu. The Yadavs are also either large or medium landholders. The small farmers, landless and the occupational classes may have cultural difficulties gaining access to visit these higher caste and income demonstration households. In fact, the poor small farmers, and landless occupational classes are the ones who need to have the demonstration impact to improve their nutritional status.

7.0 Bottom-up Planning and Policy Reform

Bottom-up planning is a shared objective of all implementing entities of the MARD Project. The bottom-up policy reform function was designed to involve all beneficiary groups and all implementing entities in the process of issue identification. At the two whole-Project annual planning and review workshops sponsored by the Project Coordination Office (PCO), these issues were to be highlighted for the attention of local politicians and senior level government officials in attendance. Chemonics was to provide the analytical work necessary to define problems and propose policy changes, and the PCO and USAID, together with help from the TA group, were to carry out policy dialog at appropriate levels and lobby for needed change. Chemonics added the additional objective of working with advocacy groups for change. The last whole Project workshop was held in early 1998. There have been none since, due to the evacuation of the TA team from all five Rapti districts. The PCO office in Rapti can no longer be a venue for future workshops. Due to the expansion of the Project into the six districts of the Lumbini & Gandaki zones, and the lack of any USAID local currency program in these districts, it is not practical to hold overall Project workshops in the future. Presently, Chemonics continues to undertake an analytical agenda, although this effort will be sharply curtailed when C.O.P. Larry Morgan departs the Project in March 2000. Chemonics now prefers to focus attention on more local policy issues within the management control of district level decision-makers. Chemonics reports are distributed to all concerned decision-makers. However, the recipients rarely read them. Many HMG officers have said that no action on any policy issue will occur unless some sort of presentation or workshop is organized to invite all the relevant policy decision-makers. The evaluation team strongly endorses this idea.

7.1 Bottom-Up Planning Achievements

There are no quantifiable expectations in the MARD Project Activity Paper for bottom-up planning. There is no longer an overall MARD planning and review process, as was once centered in Tulsipur at the Project coordinator's office. Maoist activity resulting in the murder of

one Chemonics team member, and travel restrictions in five districts, caused the overall planning and review process to come to an abrupt halt. Now each implementing entity carries out its own planning and review process separately.

▪ **CECI Planning**

The two CECI annual planning and review workshops are a function of the CECI grant program and were never designed to be beneficiary-sustained when the grant ends. The CECI bottom-up planning process starts with producer groups where their anticipated high-value acreage, crop mix, savings targets, etc., are fixed. CECI then sponsors VDC level workshops to bulk the group targets together. The VDC level plans are then bulked into the overall CECI/MARD district operational plan at the annual CECI sponsored planning workshop. Later in the year, CECI sponsors a second workshop to review progress and identify policy issues. At all levels of program planning and the review process, line agency and local government representatives are invited to participate, and many do, although on an ad hoc basis. The CECI bottom-up planning process is driven by beneficiary participation and reflects their priorities and production expansion constraints.

▪ **Chemonics**

Chemonics operates its annual planning and review process very much like CECI. During 1997/1998 (second year of the Chemonics contract), Chemonics conducted a total of 48 VDC level bottom-up planning workshops (two in each of the 24 Chemonics VDC pockets). The workshops were held in October 1998 (total number of participants for 24 workshops was 712), and in June 1999 (total number of participants was 985). Workshop objectives included: identifying needs voiced by farmers; major constraints limiting improved production, marketing and nutrition; solutions to resolve those constraints/problems; prioritizing opportunities and interventions; and preparing action plans and annual programs. Participants in the workshop consisted of key members from each group; line agency representatives from the pocket areas; agro-vets, cooperatives and other input suppliers; concerned local government representatives; leaders of local credit and savings organizations, other development workers operating in the pocket areas, and the TA team.

Chemonics noted a number of lessons learned on bottom-up planning from its second year of implementation:

- broad community participation is necessary to make bottom-up planning an effective rural development tool;
- policy reforms are more effective when the relevant interest groups deliberate and decide issues;
- government agencies are most effective in bottom-up planning exercises when they encourage dialog and private sector solutions;
- bottom-up planning and policy reform processes are more effective when all interest groups share a common understanding of the production and marketing characteristics of a local community.

The HMG line agencies run their planning processes independently of the other MARD Project personnel. User group targets within service center areas are bulked into a district program plan by each HMG line agency. The District Agriculture Development Office, the District Livestock Development Office and the other line agencies, present their proposed programs to the elected leaders at the District Development Committee for concurrence before they are sent to the Regional Department Offices, and ultimately to the Kathmandu central department and ministry offices for final approval. Donors, contractors, grantees and interested outside parties have little voice or influence in the ultimate "red book" plan and budget that results.

7.2 Bottom-up Policy Issues Identified

Policy issues that have emerged from the bottom-up planning exercise include:

- importance of production cost reduction,
- role of on-farm demonstrations in accelerating technical change,
- non-availability of quality improved vegetable seeds in most Project pockets,
- the impact of subsidies on MARD technology diffusion,
- insufficient fertilizer supply,
- market inefficiencies at the Butwal wholesale fruit and vegetable market

7.3 Analytical Agenda and Policy Reform Achievements

The evaluation team found that Chemonics was the only Project implementer that produced analytical work in support of policy reform. All policy issues were identified by the Chemonics team, and all were discussed, in varying detail, in their published reports. The two most useful policy reports are Technical Report No. 40 "Accelerating Technical Change in Agriculture", and Technical Report No. 41 "Lowering the Cost of High-Value Agricultural Commodities". Report No. 40 contains detailed mathematical modeling, which was written to challenge some subsidy assumptions made in the Agriculture Perspective Plan (APP). It was written to dialog with economists' participating in the USAID sponsored Winrock Policy Project, and the technical nature of the analysis might be above the grasp of some on the Project distribution list.

It is unclear to the evaluation team how much USAID has been involved in policy dialog. The expatriate USAID agriculture officers are newly arrived, and staff turnover in the rest of the Mission has left little institutional memory about policy dialog issues in which USAID officers were active over the past three years.

The MARD Activity Project Paper stated implicitly that the analytical agenda will be "action oriented" so the analytical findings will have direct impact on implementation.

7.4 Unresolved Issues and Additional Issues of Interest

A few policy issues identified in the Project activity paper have not received MARD Project attention to date. These include:

- analysis of the impact of the octroi tax on trade in high value agricultural commodities (to be conducted in cooperation with FNCCI and AEC). Results to be used to lobby government to identify alternative schemes for generating income for municipalities,
- economic analysis of the impact of high-value crop production and marketing on irrigation, fertilizer use, food supply and food security.

In an interview with Dr. Shakya of the USAID-funded Agro-enterprise Center (AEC), the evaluation team learned that the "Local Government Act" of 1998 abolished the octroi municipal tax authority. In its place, the act gave authority to the DDCs and VDCs to control a development tax. Even though the regulations for the administration of the taxing authorities have not yet been promulgated, the DDCs already exercise the authority to tax movements of goods. This new DDC development tax may take the place of the problematic octroi tax². In addition, the VDCs also have the authority to impose a development tax. When they begin to exercise this authority, goods crossing any VDC border would be taxed. The obvious result would be to shut down any enterprise that involves the transportation of goods. This would destroy the entire MARD initiative. The analysis of this new development tax is a priority that should be addressed immediately, since it daily affects the marketing of all traders in the Project area. The probable reason that this issue has not surfaced in the bottom-up planning workshops is because Chemonics is still concentrating on increasing production at the producer group level, and after only one year of implementation, none of the groups has even begun to market produce collectively. The evaluation team met the Rapti Kapurkot traders who face several octroi barriers on every trip to Butwal, Nepalgunj or Narayanghat. These same issues will become important in the Chemonics pocket areas as soon as they begin wholesale marketing.

The analysis of the impact of high-value crop production would be best timed towards the end of the Project, after Project interventions have had a few years to demonstrate an impact.

Chemonics has made good progress on the issue of Butwal wholesale market inefficiencies. They have helped the traders organize an advocacy group in the form of the "Butwal Fruit and Vegetable Wholesalers Association". The Project gathered sample constitutions from several similar associations in Nepal, and the group hired a lawyer to produce a draft constitution that recently was approved by the joint membership. Chemonics produced an excellent analytical report demonstrating how the returns from reducing the inefficiencies of the present market physical plant will be shared by both traders and consumers. Policy dialog between the newly formed association and the Butwal municipal government is presently ongoing, with assistance from Chemonics. If the concept of adding a "program support " type of fund to the Chemonics contract is approved, some of these funds should definitely be used to assist the Butwal market. It is the second most important wholesale market in Nepal, with an annual produce volume of 51,000 metric tons. There is no single market intervention that the MARD Project can make that is more important.

² Subsequent discussions with USAID staff indicate that the 1.5% development tax, replacing the former municipality octroi tax, may be collected centrally and then reallocated to municipalities, DDCs and VDCs

Chemonics had just begun a consultancy to study the seed supply issue. The TA team has also conducted a number of agro-vet training sessions, resulting in establishment of many new commercial outlets for the purchase of seed and other agricultural inputs.

The long-standing shortfall of fertilizer supply in Nepal continues to be a major limit to all production programs using high yielding varieties. There is great interest among the donor community on this issue, and much policy dialog. The ADB, who finances most of the fertilizer sector interventions, is the largest player. The APP places increased fertilizer supply as one of the four cornerstones of the entire APP 20-year strategy. The Chemonics Technical Report Number 41 touches on fertilizer subsidy issues. It is unrealistic to expect the MARD Project to contribute much more than this to the fertilizer dialog, given that other USAID Project resources like the Winrock Policy Project and the AEC Project are more appropriately deployed for national dialog.

8.0 Cross Cutting Themes

8.1 Decentralization of HMG Programs Planning, Budget and Delivery

Decentralization has been a long-standing policy dialog issue with donors interested in institutional development through the financing of HMG local currency programs. The major premise is that the donor will be able to "buy" a change in the HMG program with the Project funds provided. In the context of the MARD Project and the two Rapti Projects that came before, USAID hoped to reduce the rigid central planning of HMG programs and encourage the increased authority of the district offices to design programs tailored specifically to meet locally identified development needs.

The evaluation team's interviews with HMG officials at all levels revealed that HMG has tried to develop a planning and budgeting process to make innovations in district programs possible. The district programs are developed at the service centers, then consolidated into the district level submission to the District Development Committee (DDC). Once approved by the DDC, the submission moves to the Regional Director's office for review (which is held in a workshop format). Here, slight program changes are made to agree with policy directives that have been issued from the center, and programs are cut only if they are at variance from these directives. The sub-missions then move to the Kathmandu department level, where the planning division may make cuts to keep within the overall budget. The sub-mission then receives the technical Ministry approval before it is sent the Ministry of Finance. Further cuts may be made at the Ministry of Finance to prune the budget to fit within available resources. The finalized budget is then published as "the red book".

Why, then, are market development programs missing from all of the HMG programs in the MARD supported districts? MARD is, after all, a market development Project. The answer is quite simple. **There is no shared vision between USAID and HMG on the importance of market development.** If the Project developed according to USAID intent, there would have been market development programs included within the HMG priority programs (all of which are implemented in high potential pocket areas). This change within HMG programs and

budgets is what USAID is "buying" with the local currency support. When the team interviewed the DADOs and DLDOs from each district, they were asked why no market development program was included in their program and budget. They all replied that they had insufficient funds to carry out their priority programs, and if marketing was included, additional funds would be needed. The HMG district officers believe that production programs are the priority, not market programs. Even though there is apparent decentralization of authority to the district officers to design programs, they do not share the vision that market development is requisite. The culture of HMG extension has always been to focus on production. Recently, with the adoption of the Agriculture Perspective Plan (APP), the priority in HMG Agriculture extension has shifted from cereal crop production to cash crop production for the hill districts, and includes cash crop production activities in the Terai districts as well.

Without district officers sharing the vision of the importance of market development, the only way to achieve inclusion of a market focus in their programs is by directive from the central ministry and department level.

8.2 Can the Vision be Shared?

Some insight into this critical question comes from an observation about the sustainability of changes made within the HMG programs and budgets during Rapti II. Rapti tried to share the market vision by involving district officers in the design of "operational five year plans" for each line agency. These plans were discussed at the Kathmandu department level, resulting in official Department endorsement for these five-year strategies. Annual planning and budgeting for all participating line agencies then flowed out of the operational plans and were mirrored in the actual "red book" budget. No program changes were sustained in the first three MARD years. Therefore, it appears that the expectation of a sustainable change to include marketing activities within the HMG programs may not be realistic. It should be noted that USAID approved the HMG programs and budgets for all of the first three years of the MARD Project, even though they did not include market development as a line item in any of the priority programs. This was an opportunity missed to use local currency leverage to achieve Project objectives.

8.3 Project Management

The Project is unmanageable in its present configuration. The five Rapti districts have no TA team, a local currency HMG program with no market focus, and travel restrictions are imposed on four of the five districts, making monitoring by USAID impossible.

The Project coordination compound is located in the Dang district of the Rapti Zone, but the Project Coordinator is posted in Kathmandu. The Project Coordinator's main job description is to head the marketing division of the Department of Agriculture. His assignment as Project Coordinator is a part-time activity. It is no longer practical to hold overall Project annual planning workshops or annual review workshops. The different elements of the Project now function independently - each element of the Project now undertakes its own annual planning and review workshops. The Project coordination office can no longer effectively do whole

Project monitoring and reporting, and given the various reporting formats and program differences between Project elements, Project progress at the strategic objective level is difficult.

The new home of the Chemonics TA team is in the six districts of the Gandaki and Lumbini zones, however there is no local currency HMG program operating here. The ADB-funded Third Livestock Development Project covers this area and includes HMG local currency funding and marketing activities. The Livestock objectives of the Chemonics contract are difficult to implement. The World Bank Agriculture Research Project also operates in the three Terai districts of these zones, and like the ADB Project, includes local currency support to HMG programs. Even if the MARD Project local currency support was applied in the Gandaki and Lumbini zones, the resulting confusion and oversupply of local currency would not likely result in increased cooperation of the district HMG offices. Without an institutional change within the HMG district agriculture and livestock programs to include market development as a priority program, the TA team activities, which cover only 10% of the arable land, will not be replicated elsewhere.

The CECI program was designed to operate in four districts, three in the Bheri zone located in Mid-Western Nepal, and also in Nuwakot located near Kathmandu. For security reasons, the grant cannot operate in the Bheri district of Jajarkot, and the USAID grant officer needs to update the grant to remove Jajarkot from the planned area. The three Bheri districts receive MARD local currency financing for the HMG agriculture and livestock programs, however Nuwakot district in the East does not.

In essence, the Project is adrift in a command area that is too large and geographically spread out to be manageable.

8.4 Sustainability

There are three types of sustainability of concern to any development Project with an institutional development component like MARD: beneficiary sustainability, program sustainability and financial sustainability. Beneficiary sustainability is the ultimate measure of success. The major premise of the marketing interventions (under MARD) is that once household income increases significantly from regular beneficiary participation in sales to wholesale markets, the beneficiary will then continue the activity out of self-interest. Program sustainability and financial sustainability both relate to the local currency financing of HMG programs, and are a measure of sustainable institutional development. Keep in mind that financial sustainability dwells at the "input" level and that program sustainability dwells at the "output" level of the logical framework methodology. At this time it is not clear to the evaluation team that HMG is capable of program or financial sustainability.

▪ CECI Grant

CECI and its local NGO counterparts focused their program on the process of input and output level achievements during the life-of-Project. When asked to speak on beneficiary sustainability or program sustainability, it became clear that more thought needed to be given to this area by CECI. The evaluation team believes that there will be lasting effects on growth of crop, and

beneficiary adoption of improved nutritional practices. For example, traditional rain-fed grain cropping patterns have been replaced with vegetable cropping patterns which resulted in a 20-fold increase in gross returns. However, the CECI grant activity could benefit from a rigorous self-review of their programs to place sustainability objectives and indicators in the forefront of their program implementation and monitoring.

CECI observed that the capacity of the local Bheri zone markets at Birendranagar and Chhinchu to absorb the already increased production of cash crops is nearing saturation. A well conceived operational plan to link producer groups to the Nepalgunj and other regional markets needs to be developed and implemented right now.

Estimating the future sustainability by the Chemonics beneficiaries requires the evaluation team to make some "best guess" assumptions. Within the immediate pocket areas of the Chemonics program (covering about 10% of the arable land in the six-district area where they have been working for one year), the evaluation team has used a 60% rate of sustainability for the Internal Rate of Return calculations. At this point in the Project, Chemonics has focused on increasing production of HVCC, and beneficiary groups have not yet been linked to the wholesale market. At the end of the three years remaining, the evaluation team believes that the market linkage will have occurred, and that the 60% sustainability rate takes into account the reasonable expectation that some beneficiaries may stop or reduce their activities once the presence of the Technical Assistance team is removed. The spread effect to neighboring areas is expected to be slow, given that there is no expectation for HMG extension programs to develop a market linkage capability during the next three years, or to be able to replicate the increased production extension that Chemonics has begun to demonstrate.

▪ **Nutrition Extension Sustainability**

The nutrition extension activities of both CECI and Chemonics have a lower chance of sustainability by the end of the Project. These are educational programs that do not in themselves result in an increase in household income, and as such, don't have the same impact of capturing the attention of beneficiaries. Nutrition education programs require long-term investment horizons in order to demonstrate a sustained change in beneficiary behavior. Since both the CECI and the Chemonics nutrition programs have only started this year, it seems unlikely that the three years remaining will be sufficient to demonstrate sustainable results. As incomes grow, it has been well documented that diets change in a positive way from the increased disposable income. Because of the synergistic association with the income generating potential of the market development program, there may be some sustainable diet changes by the end of the Project. The evaluation team believes that a longer time horizon is required for achieving any significant behavioral change in the population of the pocket areas of the MARD Project.

▪ **Sustainability of HMG Programs**

For the sustainability of HMG line agency programs, a discussion of all three types of sustainability is relevant. The current HMG production programs appear to the team appear to be sustainable, but unfortunately for the MARD Project, HMG programs do not include a market

development element in their priority activities. In the evaluation team's estimation, the financial sustainability of the HMG programs is also good in the MARD Project area. The level of financing provided is not significantly greater than non-Project areas. The HMG should be able to continue these levels without USAID local currency reimbursements. It is interesting to note a quote from one of the Rapti district officers at the briefing held in Tulsipur: "MARD gives nothing - just a percentage of the HMG budget". This exactly captures the perception of all HMG officers posted in districts with USAID local currency programs. The reimbursement by USAID occurs at the level of the Ministry of Finance as a foreign currency grant used to finance recurrent HMG government programs. There is no impact at the Project level.

It is difficult for the evaluation team to comment on beneficiary sustainability resulting from HMG programs. The team was unable to travel in the five MARD Project districts covered by the no-travel advisory of the US Embassy. Certainly, the team cannot comment on sustainable impacts in production in the commodities covered by the HMG programs. However, HMG does not undertake any market connection/linkage work involving petty traders and wholesale markets. The evaluation team is comfortable in stating that this is a major disconnect in the process of increasing beneficiary income from sales. The impact of the HMG programs on increasing beneficiary income is marginal.

8.5 Gender Equity

Attention to gender balanced participation and benefits has been generally good across all Project activities. CECI is, by far, the most conscientious implementer in this respect, and should be commended on their successful integration of women at all levels of Project activity. Women constitute 50% of the membership in crop and livestock groups. Female participation in Project training is roughly 45%, and female membership in the savings and credit cooperatives is always more than 50% (sometimes reaching 75% of total membership). Female participation at the executive committee level of the savings and credit organization is less than 50%, but this is not unexpected, given the inertia of traditional cultural roles in leadership positions.

Chemonics program participation by women is also good, although not as high as CECI has achieved. During the one year of implementation in the Rapti Zone, Chemonics worked with 249 farmer groups involving 3449 households with 26.5% women participation. Altogether 27 integrated and specialized training sessions were conducted for 632 participants, with over 39% female participants. After moving to the Gandaki & Lumbini zones, Chemonics worked with 91 farmer groups in 1744 households, with 28% women participation. Roughly the same 28% participation by women was achieved in the 95 training sessions conducted during the September '98 to July '99 period.

HMG program gender statistics for farmer groups was available for the first two years of the Project, aggregated over the eight district area for which USAID provides local currency financing (Bheri zone districts of Surkhet, Dailekh, and Jajarkot; and Rapti zone districts of Dang, Salyan, Pyuthan, Rukum and Rolpa). For 1996/1997, there were 432 all male groups, 75 all female groups and 357 mixed groups. For 1997-1998 there were 432 all male groups, 111 all female groups, and 323 mixed groups. The team was not able to obtain the total membership of

these groups in order to calculate a percentage of women's participation. The Evaluation team was unable to obtain gender statistics for the third year of the Project for any HMG districts.

As is noted in the following section, the gender balance of the participant training program is abysmal. Of the 12 long-term and 48 short-term planned training sessions, only one female participant has been included. Participant training resources are nearly fully programmed for the remaining life of Project.

8.6 Participant Training

Most participant training resources have been earmarked or expended. The training plan was developed for 12 long-term Masters degree level training slots, and 48 short-term training slots.

Twelve candidates have already been identified for the 12 long-term training slots. Of these, six are in training and six have not yet begun their training. Of the 6 already in training, four are from the Project coordination office in Dang district, one is from the Kathmandu office of the DOA, and one is from the district livestock office in Rapti/Rukum. Of the six yet to be sent, one is from the DOA Kathmandu office, 3 are from the DOA district offices in Rapti, one is from the DLS office in Rukum, and one is from the DOA district office in Jajarkot.

Unfortunately, there are no long-term slots left for the six districts in Gandaki and Lumbini zones, where the TA team is now working. Only one slot has been allocated to the Bheri zone district, where the CECI grant is operating. The PCO office staff is well represented in long-term training, occupying 25% of the available Project slots.

There are 48 planned short-term training slots. Most have been programmed or completed. Three group tours for market observation in the US, Bangladesh, Thailand and the Philippines have been completed with a total of 23 participants. Three individual slots have also been completed.

“As the Project area is remote and having difficult mountain terrain, the field staff working in the area have no regular practice of English language. Though they can write and understand whatever the training may be in English medium, most of them have been rejected from the opportunity of training due to the standard of the English test”.

PCO office briefing 9/17/99

Nominations have been received for 22 principal and alternate candidates for various fields of training that are still awaiting processing and departure.

Still open are identified training programs for seven, and for the fourth and final group, a market observation tour for eight. It seems clear the remaining slots should be allocated

to the Gandaki and Lumbini districts in order to complement TA activity.

English language proficiency, as determined by an English test, continues to be an issue for HMG line agency officers hopeful of going on in foreign training. Primary and alternate candidates nominated for training have often been unable to pass the examination. The evaluation team believes that the English proficiency requirement is a valid one for long-term

and short-term training in which English is the principle medium of instruction. An exception for long-term and short-term training should be granted in India, where Hindi is the principal medium of instruction.

▪ **Women Training Programs**

Women beneficiaries of the participant training program are conspicuously absent. The evaluation team identified one female participant, the rest were men. This is opposed to gender objectives of both USAID and HMG.

8.7 Cooperation and Collaboration

There are five ongoing USAID and other donor Projects with objectives that complement the MARD activity. They are the USAID funded Agro-enterprise Project, the USAID funded Winrock Policy Project, the UNDP Rural Urban Partnership Program, the ADB Third Livestock Development Project and the World Bank Agricultural Research Project.

The Agro-enterprise Project has collaborated with Chemonics. One good example was support from the Agro-enterprise Center (AEC) to the Rapti Kapurkot fruit and vegetable traders in the form of plastic crates used to replace the local baskets for transporting produce by road. The local baskets are shaped like tall funnels, and concentrate the crushing power of the load onto the bottom layers of produce. The plastic crates greatly reduce losses during transportation, and have been in use in Rapti for over one year. The AEC also supports the gathering and dissemination of daily market price information by fax and e-mail to eight large wholesale market centers. This is done through the Federation of Nepal Chambers of Commerce and Industry (FNCCI). In 1999, the AEC and FNCCI enlisted the help of the UNDP funded Rural Urban Partnership Project to expand this daily price information to an additional eight market centers. Now a total of sixteen major wholesale markets in Nepal are covered, including the seven markets of Pokhara, Narayanghat, Butwal, Tulsipur, Gorahi, Nepalgunj and Birendranagar, which cover the regional market of the MARD Project within Nepal. The CECI team and the Chemonics team both access and use this price information. The AEC has not undertaken any joint studies or analysis in conjunction with CECI or Chemonics. Reports produced by the two Projects copy each other for distribution. No joint policy dialog initiatives have been undertaken.

Collaboration between the MARD Project and the Winrock Policy Project has been infrequent. The Winrock Policy Project is scheduled for completion at the end of 1999, so there is little scope for future collaboration. There has been no direct collaboration between the two Projects on any issue, although both Projects copy each other on their report distribution.

The ADB Third Livestock Development Project was operating throughout the six districts of the Gandaki and Lumbini zones before the Chemonics team relocated there. This has created a difficult situation for both the HMG District Livestock Development Officers (DLDOs) and the Chemonics livestock advisor. The DLDOs are experiencing timing conflicts. The ADB Project has local currency funding for their program and budget. Chemonics came later without local currency funding and is trying to compete for the DLDOs time. Adding local currency funding

from the MARD Project would only increase the present confusion. Chemonics activities are essentially a subset of the activities covered by the Third Livestock Project, concentrating on chickens and pigs to demonstrate a quick return. The evaluation team feels the small expenditure for the Chemonics livestock program (about 1% of contract budget) is not justified, given the duplication of activities covered by the ADB Project and should be dropped from the contract.

The World Bank Agricultural Research Project operates in the three Terai districts where the Chemonics TA team is working. The World Bank Project also provides local currency budgets for these districts. There is good scope for cooperation between these two Projects because the World Bank Agriculture Research does not include off-season vegetable production and market focus. The HMG Project Coordinator for the World Bank Project is the former Project Coordinator for the MARD Project. He is in a good position to foster coordination between the two Projects. There has not been much collaboration to date, due to personality conflicts dating back to the time the World Bank Research Project Coordinator was the MARD Project Coordinator. Hopefully coordination will improve in the future.

9.0 Project Implementers: Chemonics, CECI and the Government of Nepal (GON)

9.1 Chemonics Monitoring, and Deliverable Targets

The MARD/Chemonics total budget is 3.45 million USD. As of 30 June 1999, the Project spent 1.68 million USD and 1.77 million USD remained. Chemonics expenditures averaged 67,261 USD per month for the first 25 months of the Project. This is a burn rate of about 15% greater than the projected Chemonics mean of 57,557 USD per month. In part, this increase can be attributed to the additional cost resulting from the relocation of Chemonics out of the Rapti zone.

As can be noted in the following chart (Figure 2), the MARD/Chemonics activity spends 69% or about 2.39 million USD on bottom-up planning and policy. The second largest budget combined categories are HVC activities making up about 742,000 USD.

The MARD/Chemonics Project has endured the turmoil brought on by a number of external factors. Among the key constraints to the efficient implementation of the Project has been the on-going security issue in the Rapti zone and the subsequent relocation of the Project to Lumbini-Gandaki district.

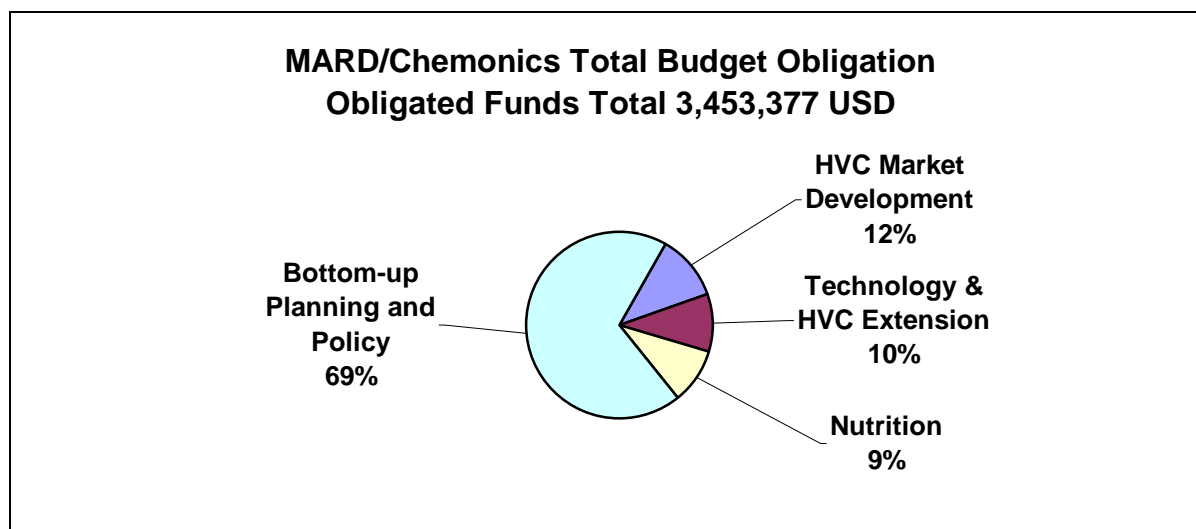


Figure 2

An important factor that directly impacts the ability to evaluate Chemonics performance is that the Project's deliverable targets were not agreed to until June 1999. This fact does not allow for an effective broad evaluation of Chemonics performance over the lifetime of the Project and was a significant oversight by USAID/N. The Project's summary timeline follows:

- | | |
|--------------|--|
| ▪ April 1997 | USAID and Chemonics sign the contract |
| ▪ May 1997 | Chemonics team starts work in the Rapti zone |
| ▪ Jan. 1998 | Larry Morgan, Chemonics current COP arrives |
| ▪ May 1998 | Chemonics District Coordinator is murdered in Salyan, Rapti zone |
| ▪ Sept. 1998 | The Project relocates to 6 pockets in Lumbini-Gandaki districts |
| ▪ Oct. 1998 | Chemonics completes its M&E survey of new Project pockets |
| ▪ Jan. 1999 | Chemonics conducts M&E survey of non-Project areas |
| ▪ June 1999 | Chemonics conducts second M&E survey in Project pocket areas |
| ▪ June 1999 | USAID and MARD/Chemonics agree on Project target deliverables |

In terms of developing and implementing a monitoring and evaluation system, Chemonics has done an admirable job. Their M&E activities started in September 1997, when they were operating in the Rapti zone, and have continued in the Lumbini-Gandaki districts. Their achievements have included not less than six detailed baseline and monitoring reports, as well as numerous reconnaissance surveys and other supportive documents.

From a contractual standpoint, Chemonics has met and (in most cases) exceeded all of the 1999 performance indicators that were agreed on in the USAID MARD/Chemonics Contract Modification No. 1 of 23 June 1999.

No.	Performance Indicators Description	1999 Target	1999 Actual	2000 Target
1	Annual Sales of PCCT in Project pocket in million of USD	.64	1.35	.77
2	Farm household producing HV ag-products in the Project pocket areas (x 1000)	34.6	34.8	35.3
3	Farmers producing HV ag products in Project pockets (x 1000)	33.9	34.0	34.5
4	Farmer groups assisted in Project pockets (actual number)	82	91	102
5	Area of PCCT in Project pocket area (ha)	1,133	1,205	1,224
6	Mean harvested yield of PCCT in Project pockets (Mt/ha)	6.2	14.0	6.9
7	Percent PCCT production marketed (% sold)	68	68	71
8	Number of Agro-Vets operating in Project pockets (actual number)	35	36	36
9	Nutritional practices reducing night blindness in Project pockets (% of pregnant/lactating women)	51.0	71.0	53.6
10	Incidence of night blindness in Project pockets (% of pregnant/lactating women)	14.6	8.8	14.4
Program	Annual sales of HV ag commodities in non-Project areas of MARD/Lumbini-Gandaki Districts (millions of USD)	37.5	38.3	39.4

Source: Chemonics Butwal, Nepal Project office

Charting the Future Path

The approach the evaluation team took when examining both the CECI and Chemonics Projects was one of transparency and collaboration for change. All of the recommendations outlined in the evaluation report were discussed in detail with the Chemonics COP and, in fact, were a collaborative effort between Project management and the evaluation team. The desire both parties had in creating the evaluation report recommendations was to allow the Project to adjust mid-course, given the events that overwhelmed the Project in the first 24 months of its implementation. The mid-term evaluation can be viewed as an opportunity to retool the Project to fit the new environment in which Chemonics is now operating.

9.2 Chemonics Strengths

As has been stated before, the evaluation team believes that when looking at the “whole project” Chemonics has done a good job of implementations. This is particularly true given the extremely difficult task for relocating the project out of the Rapti Zone in late 1998. To a large degree Chemonics success to date can be credited directly to the COP, Larry Morgan and his project management team.

In addition to meeting the Project’s performance indicators, Chemonics developed a large number of analytical reports that examined production and economic issues relevant to the implementation and sustainability of the MARD Project. The concern the evaluation team had with these documents was not the subject matter,

accuracy or other issues, but rather, that district DOA officials (as well as senior DOA and MOA officials) did not read these reports when they were sent copies. The evaluation team could

recount only one instance where a district or senior DOA official could recall a report's subject matter or title.

In defense of the local DOA staff, the evaluation team agrees that several of the Chemonics reports were written at an economic analytical level higher than that which could be expected of district DOA staff. The local staff usually comes from a production agriculture background, not an agricultural economics background. To address this problem, DOA staff suggested that when contractors have an important finding that they wish to share with their HMG colleagues, they should present their reports in a workshop setting. The evaluation team agrees that this would be a step in the right direction and adds that these workshops should be kept short (less than a half day long) and provide significant time for Q and A sections and breaking into smaller working groups. The working groups made up of HMG and contractor/NGO staff should be asked to develop strategies and methodologies on how to address the report findings and report these back to the larger group at the end of the workshop. This kind of collaborative activity will assist in helping the contractor, HMG and USAID in developing a shared vision of problems and their solutions. When the contractor addresses subjects that have national policy significance, it is critical that senior staff, as well as key Parliament members at the MOA, take part in these workshops. By not addressing this information bottleneck sooner, the implementing partners have missed an opportunity that may not be possible to be revisit in the life of this Project.

Administratively, Chemonics should be commended for their skilled implementation of the MARD Project. The senior local and expatriate staff run an efficient and well-organized Project. The Chemonics local staff is well motivated and staff members have technical backgrounds relevant to their job responsibilities.

9.3 Chemonics Weaknesses

Chemonics' implementation strategy has been to focus resources on HVC production, in an effort to increase volumes, and thus achieve improved market efficiency. This is a reasonable strategy, but the evaluation team feels that Chemonics would benefit by taking a broader approach to address market inefficiencies. Specifically, Chemonics should work to improve the marketing system at several points in the marketing chain simultaneously. This could include (for example) working with farmers to increase yields, improve quality, work with the truckers to develop ways to reduce transport losses and deliver higher quality product to market, as well as investing in market infrastructure development. The development of rural collection centers and improvement of the Butwal wholesale market is an activity that Chemonics would like to expand and the evaluation team supports this action.

One reason that Chemonics may have not already approached some of these market development problems, is that their technical staff may not be too familiar with the necessary methods and technology that should be applied, and there are restrictions on budgetary line item spending. Although the staff has an agricultural education and Nepal field experience, they may lack the breadth of knowledge necessary to implement these new and innovative changes. To assist the local technical staff, Chemonics and its subcontractors (UC Davis) have recently provided workshops on post-harvest handling of fruit and vegetables, but should, through its own TA

consultants or UC Davis, get more involved in hands-on post harvest handling activities, in addition to workshop training in this area. Also, when workshops are given on post-harvest issues, Chemonics should invite and strongly encourage representatives from the production, transportation and marketing sides of the industry.

- **Overlapping Livestock Activities**

In the area of livestock market development, the Project is too under-staffed and under-funded to truly deliver sustainable change to the sector. The livestock component does not have a direct target deliverable tied to it, so there is no way to monitor its progress apart from the other activities. With other Projects, such as the ADB's Third Livestock Project, working in 6 of the 6 districts that Chemonics livestock activity operate in, Chemonics' efforts tend to be redundant. The livestock activity also tends to decrease the focus of Chemonics core activities in HVC marketing and dilutes the attention of Project managers.

- **Nutrition Program Impact and Substantiality**

The nutrition improvement activities are another weak area in the Chemonics program. The Chemonics nutrition program has been a slow starter; it is only in the past year that activities in this area were begun. Like the livestock activities, nutrition lacks the economy of scale to be implemented effectively. Also, like livestock, the activity suffers from limited staffing and insufficient supportive resources. By keeping nutrition as a functional area, focus on core MARD activities is reduced, and management resources are spread thin. To some extent, the nutrition objectives of the Project can be met by increasing the number of farms growing vegetables, but it is unlikely that increased vegetable production alone will yield the improvement that USAID and HMG wish to bring to this sector.

9.4 Chemonics - The Path Ahead

To increase the long-term probability of success for the MARD/Chemonics activity, the evaluation team believes several changes are necessary in the implementation format. These changes can be summed up in the following key points:

- **Focus on Core Activities**

Increase the contractors' focus on core HVC market activities. Chemonics is making its greatest progress in increasing sales in the Project area. To capitalize on gains made in this area, Project resources should be concentrated on HVC markets to insure rapid diffusing of HVC market development and insure the long-term success of MARD. To complement the current work, USAID/N should amend the MARD/Chemonics contract to add an agri-market enterprise fund which would allow the contractor to further market development by selectively allowing them to join with producer groups and agri-marketers to bring new technology and operations into the marketplace. One example is a lease/purchase arrangement with HVC grower groups to assist them in purchasing plastic produce boxes.

- **Butwal Wholesale Market Development**

USAID/N should work with the contractor to re-structure the Project and fund the Butwal market infrastructure and collection center activities. These market development activities have been outlined in the November “Butwal Horticultural Market Development, Report No. 28. The report reviews the benefit of developing a public-private partnership to improve and manage the Butwal wholesale vegetable market. The cost to USAID is estimated to be 150,000 USD of capital outlay. Chemonics estimates the value in increased market efficiency to be 384,000 USD/year (0.5 NPR/kg x 52,000 Mt sales volume/ year).

The contractor should develop a network of HVC collection centers in the six pocket areas where it now operates. This activity would also require the addition of a Project budget line item (estimated at 9,600 USD) to help cover the twelve collection centers. The joint investment in this infrastructure would act as a catalyst to future growth in the fruit and vegetable marketing sector.

- **Livestock Market Development**

In an effort to decrease redundant activities and increase contractor focus on productive activities, USAID should remove the livestock component from the MARD/Chemonics contract. Any funds freed up in the process should be re-allocated to MARD core activities and market development.

- **Nutrition Activities**

USAID should consider amending the MARD/Chemonics contract to increase focus on core Project activities, so nutrition activities are omitted. Chemonics has, to date, been unable to develop a strong delivery system for its nutrition program (in part due to lack of economies of scale and weakness in staffing). There is concern that MARD will be unable to deliver sustainable change to beneficiary’s nutrition in the remaining 27 months of the Project life.

If USAID/N wants to continue the nutrition program within MARD/Chemonics, they should do so by linking the activity to the mission’s health office, which is better suited to oversee such activities.

Nutrition activities make up about 9% or 310,000 USD of Chemonics total budget. At the mid-point in the project’s life it is assumed that about 155,000 USD remains. The remaining nutrition funds should be reallocated to budget line items that support that MARD’s core activities.

- **Reallocation of Savings**

Any cost saving realized through ending the livestock activity should be re-allocated to MARD to fund a market development agri-enterprise fund, market infrastructure development and to expand core Project activities.

▪ Policy and Planning

In the future, any important analytical work generated by the Project should be distributed in summary form only. Key issues should be addressed through short workshops where the finer points of the topic at hand could be explained and discussed in detail to HMG and MARD (CECI and Chemonics) staff. This will assist in forming a shared vision by HMG and Project staff. Additionally, the Project should seek to include local and agriculture committee Members of Parliament and other local elected officials in the workshops, when appropriate.

9.5 CECI Funding

The Canadian Center for International Studies and Cooperation (CECI) operation in Nepal relies on a number of funding sources. USAID represents about 28% of total revenues of CECI Nepal.

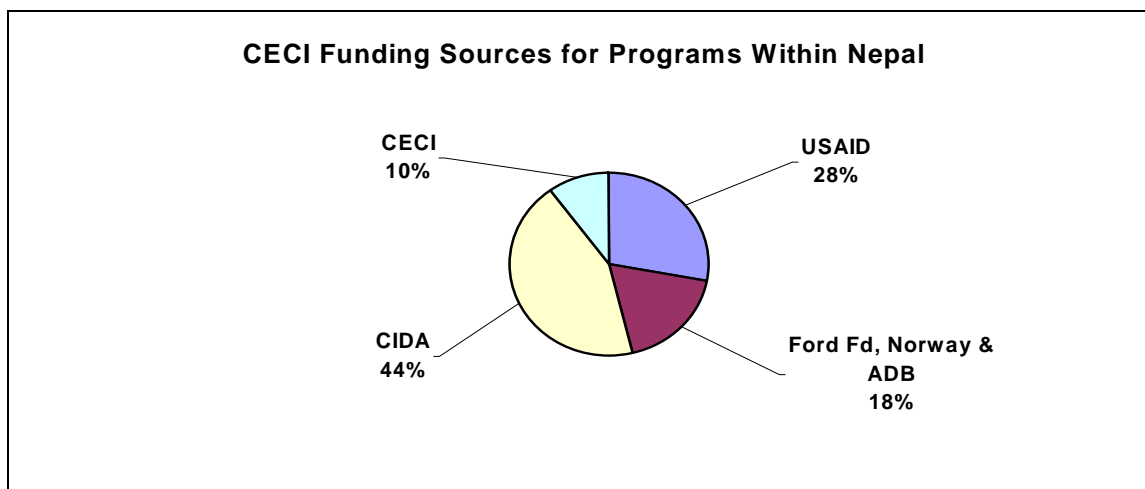


Figure 3

Source: CECI Nepal

The total MARD/CECI budget obligation is 2.31 million USD. This sum includes a .48 million USD (21%) contribution to the budget by CECI. As of 30/5/99, CECI had expended 39.5% of total obligated MARD funds. The following chart (Figure 4) examines the total available funds per budget category and the actual expenditures as of end May 99.

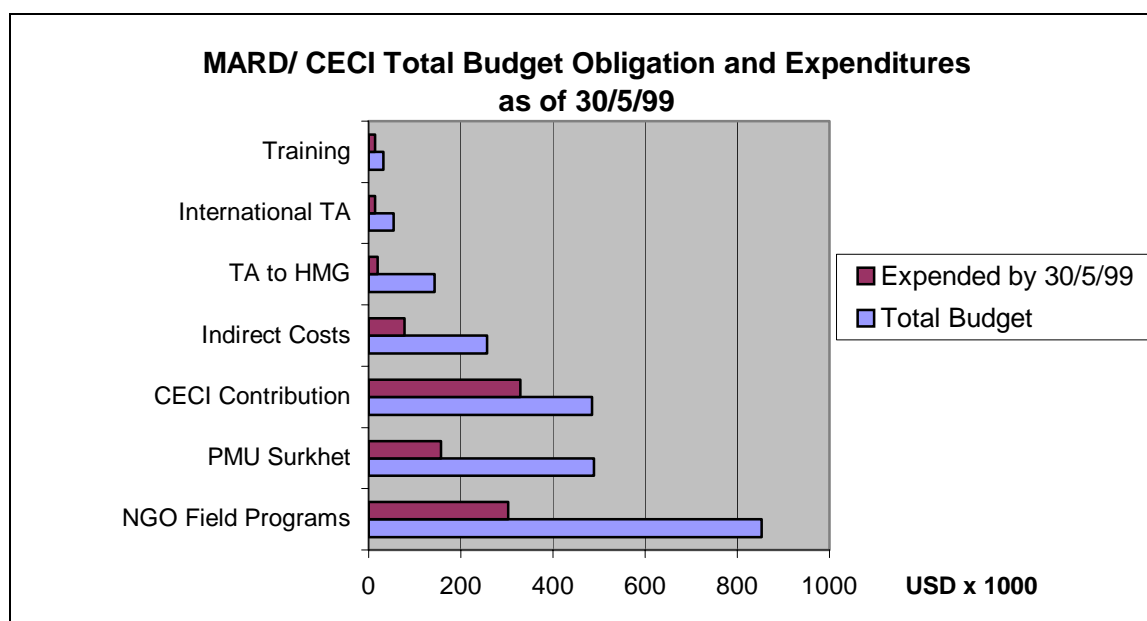


Figure 4: Source: USAID/N

9.6 CECI Monitoring and Deliverable Targets

CECI's Monitoring and Reporting System document of April 1998 outlines their strategy and methodology used for performance monitoring. This document outlines the parallel monitoring system that is designed to collect data on direct and indirect Project results. The monitoring system focuses on several key measurables including:

- Monitoring of HVC markets (Mt output, NPR value, numbers of producers and trades)
- Rural finance (number of SCO's, and members, total SCO capitalization)
- Bottom-up planning (links between farmers and VDC,DDC and line agencies)
- Nutrition (consumption of Vit.-A rich foods, calories, protein, wasting, stunting, awareness)

No.	Performance Deliverable Targets	1997		1998		1999	
		Target	Actual	Target	Actual	Target	Actual*
1	HVC Marketed Volume, Mt	700	961	1,200	1,500	3,000	1,223
2	HVC Sales Value, NPR x Million	7.0	13.0	12.0	22.6	33.0	14.2
3	Saving & Credit Member, Number of Members.	3,872	5,200	7,736	7,337	8,910	8,232
4	Savings & Credit Capitalization NPR x Million	1.7	2.3	3.0	4.5	6.4	5.6
5	Small Irrigation System Devel., Ha	na	na	50	50	100	50

*1999 Actual as of June 1999. Source: CECI, Nepal

The five main performance deliverables are summarized in the table above. In 1997, the NGO reached and exceeded all of its targets. In the following year, 1998 the Project reached four of the five targets, falling short of total numbers of SCO members by only 5%. The 1999 targets and actuals indicate that there may be some reason for concern in meeting the HVC market volume and revenue. However, the last quarter of the year is traditionally the highest sales period of the year for the farmers producing HVC in the middle hills, the area where CECI is focused. Given this fact, it is likely that CECI will meet its HVC targets by year's end.

In the area of saving and credit organization membership, CECI is in a good position to meet and exceed the 1999 target. As of 30/6/99, the NGO had already achieved 92% of its "number of members" target and 87% of the SCO's "total capitalization" target.

Small irrigation development for HVC farmers started in 1998. In that year, the Project reached its target of assisting farmers to install 50 ha, and the target doubled in 1999. The Evaluation team feels that CECI will meet this target, as there is a great interest in this activity by farmers.

There are no firm quantifiable targets associated with the bottom-up planning and policy targets for CECI. The NGO is holding annual and semi-annual planning workshops that involve farmers, cooperatives, SCO's, VDC's, DD's and line agencies. The lack of a firm measurable target makes it difficult to measure CECI's effectiveness in this area, as well as the lack of targets that measure results of the planning and policy process.

The nutrition program at CECI has had a slow start. The key targets are that 25% of pre-school children and lactating women in the Project pockets will have improved nutritional status by EOP. A second target in nutrition is that 75% of the Project population will have increased knowledge about nutritional problems by EOP. A recent survey found that, as of July 1999, CECI's nutritional programs had raised nutritional knowledge by 7-10% in the Project population, from a baseline mean of 10% to a post-education campaign level of 17.6% for selected key indicators.

The CECI livestock program has no measurable targets and it is difficult to determine the Project's effectiveness in this area without a field survey or other more in-depth methodology.

9.7 CECI Strengths

▪ Long-term Commitment

Clearly, one of CECI's primary strengths is its long-term commitment to development in the Surkhet and surrounding districts. This long-term view allows it to take a community development approach to its work, bringing together farmer clients, private sector agri-enterprises and government. This community development strategy fits well into the bottom-up planning strategy employed by MARD, and allowed CECI to develop a good working relationship with key players in the Project geography, including farmers, line agencies, local government and HMG.

- **A Synergistic Program Mix**

At the program level, CECI has organized a synergistic mix of activities. The complementary programs of HVC, irrigation and credit fit together well and under-pin each other at the client level. This mix of activities is a core part of the MARD/CECI Project strength.

- **Complementary Funding**

To complement USAID's funds, CECI also contributes funds to the CECI/MARD activity. The 79%/21% funding split allows USAID to use its funds effectively in its goal to reach its Strategic Objectives.

- **Nutrition Activity**

CECI recently embarked on a nutrition program originally implemented in Nepal by Save the Children Foundation UK. The program, termed Positive Deviance (PD), addresses the nutritional needs of high-risk mothers and children in a home/village environment. Although CECI is in the early stages of implementing this activity, they have a sound model to work from and their activity planning appears to be well organized. The evaluation team feels that this activity has good potential for an eventual impact, but is skeptical that the three years remaining in the Project is sufficient time to demonstrate any sustainable beneficiary behavioral changes.

9.8 CECI Weaknesses

- **Sustainability**

There are a number of concerns than the Evaluation Team had with the MARD/CECI Project. Key in the list of concerns is the fact that CECI has done little in the way of sustainability planning for the MARD/CECI Project. The NGO needs to start to look at ways it can build long-term sustainability into its programs. The Evaluation Team believes that CECI is capable of successfully undertaking this task in-house, but it is a matter of setting sustainability as a Project priority and effectively addressing the issue.

- **Market Saturation**

Another area that CECI needs to address immediately is the rapidly developing HVC market saturation in Chhinchu and Birendragar. CECI is well aware of this situation and understands the implications that it has on the district's HVC farmers and traders. It should be noted that the market saturation issue will only become a problem if CECI does not develop and implement a program to deal with the situation in the very near term.

- **Women in SCO Management**

Overall, women are well represented in CECI's HVC farm/market and credit activities. However, the Evaluation Team noted that women were not well represented on the SCO's loan

application boards. It is the responsibility of these boards to approve or reject a loan application. The loan application boards are usually made up of three persons. To the credit of CECI, the Evaluation Team noted that women in some SCO's hold officer status, including president of the organization.

- **Lack of Deliverable Targets in Livestock Program**

The lack of any measurable performance targets for the CECI livestock activity is a weakness that should be addressed. Although this is a relatively minor part of the USAID budget, it is impossible to determine effective use of the funds without some type of target tied to it.

- **Kitchen Gardens**

CECI works in kitchen garden development, but realizes that the long-term sustainability of this program is questionable. Farmers generally will not purchase seed to be used in kitchen gardens and they also lack the irrigation system necessary to produce a crop. The responsibility of maintaining the garden usually falls on the women, who already have a heavy workload; subsequently the garden often falls low on the farmer's list of priorities.

9.9 The Path Ahead

The MARD evaluation team recommends that CECI's current program activities remain unchanged, but it sees several areas that can be streamlined to improve the overall performance of the Project.

- **Livestock Activity**

With only one local veterinary specialist focused on this activity, limited resources committed and no performance deliverables defined, the evaluation team believes that this activity will yield a low long-term impact (relative to funds expended). To allow CECI's staff and management to focus on more productive activities, the evaluation team recommends that the livestock activity be discontinued and funds used in the program be re-allocated within CECI to core MARD activities, such as market development.

The evaluation team is aware that CECI operates under a USAID grant agreement and thus USAID has minimal authority to dictate changes in the MARD/CECI Project. Given this fact, the evaluation team accepts that if CECI opts to leave the livestock activity in its overall Project, the negative impact on the MARD Project as a whole would be minimal.

It should be noted that the above recommendation eliminating the CECI livestock activity was made prior to the signing of the new dairy development grant given to CECI by USAID Washington. With the addition of these new funds, USAID will need to reassess CECI's overall livestock activity and may opt to keep the livestock component active rather than eliminating it.

- **HVC Market Development**

As addressed in the forgoing sector of this report, CECI needs to expand the reach of its HVC market activities well beyond Chhinchu and Birendranagar. The next logical market to target would be Nepalgunj, followed by Butwal. CECI will need to clearly define market windows in these new markets as soon as possible. To help speed up this process, CECI can gain much by coordinating with MARD/Chemonics. Chemonics has developed a detailed report on HVC's price histories in the Butwal market.

Further efforts in developing the market reach of client farmers will also assist CECI in increasing the probability of the Project's long-term sustainability.

- **CECI's Overall Implementation**

The implementation plan for future activities at CECI appears to be a well thought out and organized program of complementary activities. The evaluation team sees a need for CECI to develop a longer term MARD Project sustainability plan, an activity that the evaluation team is confident CECI can successfully address.

To increase the chances of long-term Project success, USAID and CECI need to work together to develop agri-enterprise funds that can be targeted to assist specific private sector activities that help MARD/CECI reach its long-term objects.

- **A Shared Vision**

The CECI staffs need to know and understand USAID's strategic objectives so that these can be considered when CECI undertakes its semi-annual planning workshops.

9.10 The Government of Nepal

The following chart (Figure 5) examines the budget support that flows to the 8 districts in which USAID provides a local currency budget. In the current funding year of 1999, USAID will contribute about 350,000 USD directly to HMG in support of the MARD Project, in addition to providing approximately 350,000 USD to CECI and 850,000 USD to Chemonics.

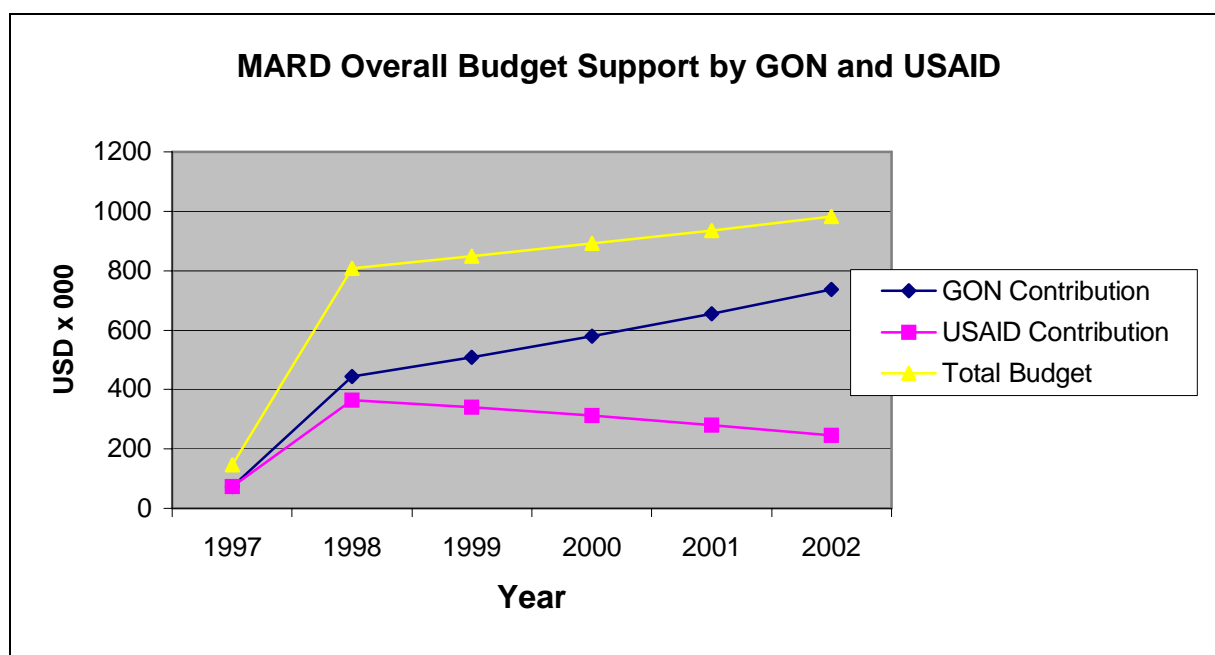


Figure 5: Source: MOA MARD Programs and Achievements Report 1998/99

9.11 GON Monitoring, and Deliverable Targets

In September 1997, Chemonics prepared the MARD Project Monitoring Plan (MARD/Rapti Technical Report No.7). One month later, MARD/Chemonics also completed Technical Report No.8, an Administrative Action Plan for Monitoring and Evaluation. It was not confirmed that this document was in fact distributed to local DOA officials, but it was confirmed that (to date) USAID has received no MARD Project impact report documents from the local DOA office in Rapti zone.

The DOA does not isolate MARD Project activities in its monitoring methodology; therefore any benefit that may be achieved by MARD in the Rapti zone is never captured or lost in the analysis when the district data is aggregated. One other factor that makes it difficult for the DOA to monitor and evaluate MARD activities in Rapti is that they only measure inputs and outputs, rather than sales of high-value horticultural products and market expansion.

9.12 GON Strengths

The DOA's primary strength is in production agriculture. The organization shares a common vision of its objective and has a long history of production as its focus. From an organizational psychology standpoint, it is unlikely that the DOA can make a significant change in the medium term. This is particularly true in light of the fact that there is little evidence to suggest that the DOA/ MOA leadership views agri-market development as a priority task.

If MARD and the DOA continue to work together in the future, and given DOA's corporate culture focused on production, USAID should look for ways to use the DOA to support MARD's vegetable farmers on production issues. The DOA should be comfortable with this, as it plays to its strengths. For market development activities, MARD will have to depend on the private sector as its engine of growth. To help engage the private sector, MARD can use the (proposed) agri-enterprise fund.

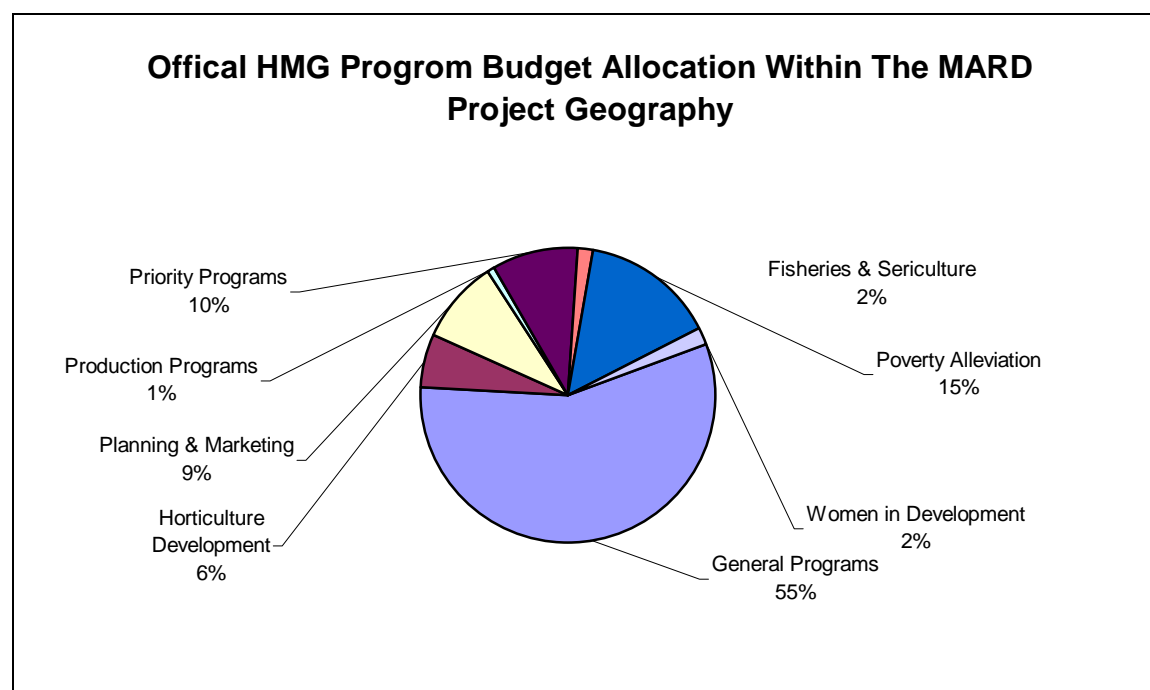


Figure 6

Source: MOA/ DOA, Annual Progress and Achievements Report 1997/98, Tulsipur, Dang

The total Program Budget (which accounts for about 10% of DOA's total budget) within the eight districts of the Rapti and Bheri Zones was, according to DOA documents, about 116,000 USD. As shown in MOA reports, the DOA was spending about \$4000 on market-related budget line items, or about 4% of total Program Budget. In terms of USAID's contribution to local budget support in the MARD geography, only about 1.1% of USAID's supportive contribution is going into direct market development line items. This should be a concern to USAID if its objective in supporting MOA is to institutionalize market development within the DOA. Clearly, this will not occur when so few resources are directed toward this goal. It is worth noting that the Program Budget makes up only about 10% of the total DOA budget in the Rapti and Bheri zones. Approximately 90% of the total DOA budget goes to salary and overhead items. The remaining 10% comprises the total program budget, which is divided into "priority programs" carried out in pocket areas, and "general programs" which are spread thinly over the entire district (with minimal effect). The Program and Total budget together total about 872,000 USD (to which USAID contributes 40% of total) and are divided across the eight districts in the Rapti and Bheri zones.

9.13 GON Weaknesses

The following chart (Figure 7) shows the DOA Priority Program Budget in the MARD geography. As can be noted, the DOA Production Program category only accounts for 1% of spending; this is misleading, as most of the other budget categories with the greater Program Budget contain production or production support line items. It is estimated that a full 24% of the DOA Program Budget in the MARD geography can be directly linked to production activities.

The Priority Program Budget category made up 10% of the Total Program Budget in the eight MARD districts in 1997/98. Within the Priority Program category, only 7% (or about 872 USD) was expended on market development activities (over 8 districts). The market development money in the Priority Program category was labeled for construction of Haat-Bazaar stalls.

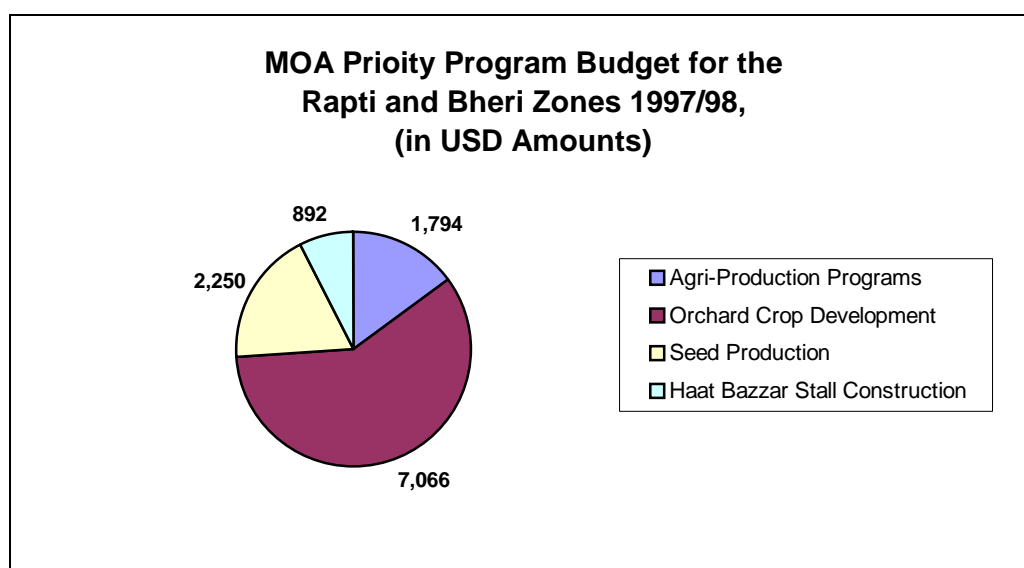


Figure 7

Source: MOA, Annual Progress and Achievements Report, MARD Project Coordinator's Office

The lack of budgetary commitment by the DOA to market development is symptomatic of the lack of a shared vision between USAID and HMG.

The Chemonics team reported that HMG's development strategy is generally weak. The Agricultural Perspective Plan is an exception, but it is a donor-funded product, with little development policy formulation input from HMG. One case of strong HMG input is the recommendation for fertilizer transport subsidies. Unfortunately, this reflects the long-standing HMG practice of protecting inefficient public sector enterprises that would have long since been privatized in a more progressive economy. Despite substantial donor assistance over the past 30 years, the MOA does not have a robust vision of sustainable development. On the administrative side, the Secretary of Agriculture has never issued a clear mandate to MOA staff to exploit MARD project interventions for their contribution to national agricultural development.

9.14 GON - The Path Ahead

The future role of the DOA is agricultural production. Where possible, MARD should try to work in concert with local DOA officials, but it is unrealistic to believe that the DOA will deliver on USAID's goals of linking HVC farms and markets. There is no scope for developing a widely shared vision on market development within the DOA over the remaining three years of the Project. Given this fact, local currency support to the MOA/ DOA should be discontinued.

There are skilled and motivated people within the DOA, and it will be very important to develop a mechanism through which MARD can encourage and assist these people in reaching common goals. One vehicle to achieve this is by making funds available to DOA staff through the proposed MARD market-enterprise fund.

▪ HMG's Focus on Production

The local currency reimbursement program should be abolished so that USAID no longer gives foreign currency grant funds to support the MOA's local currency program. The abolishment of the reimbursement program will have no effect on HMG programs in the MARD project area. HMG is production focused and this will not change. The recommendation for HMG to stay focused on production recognizes this fact, and recognizes that HMG should continue on this path in the future. USAID should recognize that HMG is not an effective change agent for market development.

▪ The HMG – Agricultural Perspective Plan (APP) Strategy

A principal APP strategy is to increase the fruit and vegetable cash crop exports from the hills to the Terai, where they substitute for Indian produce. The HMG supports this strategy through its production extension programs.

10.0 USAID

There are a number of areas that USAID needs to address internally to make MARD run more effectively. These weaknesses need to be overcome in order for the Agriculture Office to manage the MARD activity, as well as manage and develop future Projects. The following list summarizes these areas:

▪ Deliverable Targets & Improve Monitoring System:

The Agriculture Office needs to work out Project target deliverables early in the Project life cycle. The Mission should agree on deliverables before a contract or grant agreement is signed. It is difficult to understand how USAID and the contractor could have allowed this MARD/Chemonics Project to run 26 months before performance deliverable targets were agreed.

When setting targets in the CECI grant agreement, USAID agreed to several very broad targets. The targets aggregated production volume and value data (into two separate categories) for vegetable crops, tree crops and livestock. By doing this, they made it very difficult to examine the program's component parts. It allows the contract to mask under-performance in one sector with over-performance in another sector, thereby clouding USAID's view of what is really being achieved by the Project.

With only 2.5 years before EOP, it is probably unwise to spend additional time of USAID and the contractor/grantee to develop new targets. At this point, USAID has made its bed and now it should lie in it without complaints. Any further adjustments or changes in deliverables would just be additional distractions for the contractor and grantee and would be counter-productive. From a cost benefit standpoint, the evaluation team feels it is better to leave the deliverable targets unchanged from their current standing.

- **Focus on Core Activities**

MARD's technical approach is appropriate to the set objectives. There is some minor fine-tuning that both the contractor and grantee should address to improve the immediate impact, as well as the long-term sustainability of MARD. Focusing on the total market chain is key in the long-term success of this project. To date, MARD has been focused on the production end of the marketing chain, with only limited activities addressing the needs of wholesalers, traders and input suppliers.

Contractors work most efficiently with highly focused projects. Technical teams can be organized with complementary skills, allowing team synergy to develop. Projects benefit when technical staffs with complementary backgrounds address problems. When projects are diluted with several different activities, resources can become stretched and the whole project suffers.

The Agriculture Office has skilled staff in a variety of technical areas, but human nutrition is not part of their profile. If the Ag Office wants to manage nutrition programs, it needs to develop better internal linkages to the Mission's Health Office, so as to strengthen its management and technical capability.

- **Organization and Setting Priorities**

In short and long term contracting, the Agriculture Office needs to set priorities, rather than take the kitchen sink approach. The Mission also needs to allow its short and long-term contractors to have management authority for their projects, otherwise they cannot be held responsible for their output. The office needs to keep in mind that "management responsibility without management authority does not work".

The evaluation team also noted that the Project implementers felt under some pressure to hire individuals "recommended" by USAID/N. During the evaluation, it was noted that on several occasions, USAID sent over persons or CV's of prospective Project employees. The intent may have been good, but USAID staff must remember that they hold a special position of power over

the contractor and grantee. If they send over a person as a prospective candidate, they need to communicate to the MARD managers that it is their decision if these candidates are hired or not, and it will not reflect on the USAID/implementer relationship.

- **A Coordinated Shared Vision Within USAID/N**

The various offices and staff with the Mission need to have a shared vision of what MARD's objectives are and what is the best implementation methodology to employ. There are signs that the offices are acting in an uncoordinated manner. One recent example of this is the 500,000 USD dairy sector grant given to CECI. Though this grant had been in process for several months the evaluation team was not informed of the dairy grant until the day before they left Nepal. Actually the grant was made at the same time the evaluation team was recommending to the Mission that livestock activities be cut from the MARD Project.

- **MARD's Geographic Focus and Dropping Unsafe Districts from the Project**

If local currency reimbursement is dropped, the five Rapti districts automatically will be dropped from the Project. The CECI contract should have dropped Jajarkot long ago for security reasons. The USAID grant officer needs to clean up this detail during the next grant amendment. If the two actions above are taken, nine districts remain in the Project area.

- **Other Vehicles for Delivering Market Development**

The Mission should reread the original Project Activity Description (Project Identification Document) which portrays a design with no HMG involvement and uses NGOs as the delivery mechanism for market development. This is still the most effective mechanism. The original design concept can still be implemented today without modification to the original concept paper.

- **What the DOA Can Do**

The Mission has to face some hard choices when it comes to dealing with HMG. To date, the Mission has not received an acceptable Return on Investment with the MOA. The time has come to make the hard choices, stay in Nepal and work more independently of the DOA and DLS, or close the Project if HMG will not allow this.

11.0 Recommendations

The following recommendations are purposely offered in bullet form in order to make tracking and implementation of recommendations easier for Project managers.

11.1 Recommendations for Chemonics

- Add an agro-market enterprise grant and/or no interest loan fund to the Project,

- Add grant and/or no interest loan funds to the contract to include development of the Butwal wholesale market and 12 market collection centers,
- Use short-term expatriate TA to strengthen the understanding of Chemonics/MARD staff about how to design and implement market linkage interventions with petty traders and wholesale markets,
- Dramatically increase the market linkage activities with intermediate and wholesale traders in addition to continuing ongoing activities to increase production,
- Eliminate the livestock activity to increase focus on cash crop marketing,
- Immediately plan a joint strategy with the AEC to lobby for rationalization of DDC and VDC tax authority granted under the 1998 local government act. If the VDCs begin to exercise their authority to tax produce movements across the border, agricultural commerce will suffer. Results of policy dialog-related studies should be presented in action oriented workshops with key decision makers participating,
- When the expatriate Chief-of-Party departs in March 2000, Chemonics' home office should ensure that the new local manager of the Nepal MARD activity can conceptualize a broad vision of market development (and not solely pursue production activities), as well as have strong personnel management and Project management skills.
- Eliminate both livestock and nutrition activities.

11.2 Recommendations for CECI:

- Add an agro-enterprise grant fund,
- Immediately expand market linkage activities to regional markets in Nepalgunj and Butwal,
- Place sustainability objectives and indicators in the forefront of all operational plans,
- CECI and USAID should discuss the USAID Mission's strategic objective framework in order to have a strongly shared vision. This is especially important as the Mission's strategic framework is currently under review and revision,
- Eliminate the livestock activity (recommendation made before evaluation team knew of the dairy development funds recently provided to CECI),

11.3 Recommendations for HMG

- HMG should use its resources to support MARD through its expertise in production.
- Support MARD activities in Lumbini-Gandaki, as well as other Project areas.
- Should define at the highest levels of the MOA, the Ministry's role in agri-market development. Once defined, this role should be clearly communicated to all levels of the Ministry and resources allocated necessary to meet policy objectives.

11.4 Recommendations for USAID

- Ensure that quantifiable contract targets are in place before contracting for a performance based contract,
- Accept the fact that the DOA and the DLS are not suitable change agents for market development. Eliminate the local currency reimbursement program.

- Examine other vehicles for delivering market development, such as working with NGOs under a PVO co-financing type of Project.
- Cease MARD operations in Rapti Zone and Jajarkot,

12.0 Budget Options for the Continuation of the MARD Project

The table below examines high and low budget options for the MARD Project. The high budget column assumes Chemonics will restructure planned expenditures to develop the Butwal market facility and fund the construction of twelve rural collection centers to be built in its pocket areas. The low budget option shows no future spending for the Chemonics MARD activity. If it is not possible to refocus on market development, USAID should consider closing down the current project.

Chemonics, to date, has had a strong focus on increasing production. The evaluation team recognizes the need for increased production, but the Project must address market issues simultaneously with production issues. The local Chemonics staff is focused on production, and does not appear to have the breadth of knowledge to plan and implement long-term interventions that address weak points in the marketing chain, such as reduced shipping losses, improved post-harvest handling and developing new channels of delivery from growers to wholesalers. The following example budget tries to refocus resources into market strengthening line items that will help the Project staff deliver more effective interventions to the Project's stakeholders.

For CECI's high budget option, the evaluation team left the individual budget line items unchanged from their original design and added one additional line item to cover the agri-enterprise fund activities. In the low budget option, the only change that the evaluation team recommends is the reallocation of funds used in livestock market development to capitalize an agri-enterprise fund. This fund (recommended for Chemonics' high budget option and CECI's high and low budget options) would be used in concert with private sector monies to address constraints in the marketing of horticultural products.

As discussed earlier in this document, HMG has been unable to deliver significant resources toward market development activities. Because of their focus on production rather than markets, the evaluation team is recommending that USAID significantly reduce its contribution to the MOA local budget for market development. It is recommended that a high budget option not exceed 40,000 USD, divided by eight districts. This would provide 5,000 USD per district. These funds should be clearly inserted into the DOA Priority Program budget under market development line items.

The HMG low budget option assumes no future spending by USAID to support the local currency component of their budget.

MARD Budget Options

Using Remaining MARD Funds

	<u>High Budget</u>	<u>Low Budget</u>
<u>Chemonics</u>		
Butwal Market Development	150,000	0
Collection Centers (x12)	9,600	0
Extension Inputs	46,500	0
Market & Post-harvest Training	37,500	0
Enterprise Development Fund	85,000	0
Staff Salaries, Office & Misc.	212,330	0
Bottom-up Planning	2,300	0
TDY Consultants	251,000	0
Contractor Fees @ 5%	<u>39,712</u>	<u>0</u>
Total	833,942	0

Note: Chemonics high budget assumes livestock funds have been reallocated to fund market Infrastructure development and the agri-enterprise fund line items

CECI

International TA	39,000	39,000
NGO Field Programs	550,000	550,000
PMU Surket	331,000	286,000 **
Training	18,000	18,000
TA to District HMG	124,000	124,000
CECI Contribution	179,000	179,000
<u>Agri-Enterprise Fund</u>	<u>45,000</u>	<u>45,000</u>
Total	1,286,000	1,241,000

** 45,000 USD removed from PMU line items to note reallocation from livestock program to agri-enterprise fund.

Note: above CECI line items supplied by USAID/N

HMG

Six Gandaki/Lumbini, 6 Districts	30,000	0
<u>Bheri, 2 Districts of Surkhet & Dailekh</u>	<u>10,000</u>	<u>0</u>
Total	40,000	0

Note: This 5000 USD per district is a fixed amount to be included within the DOA and DLS Priority Program Budget under a market development line item.

The "percentage of the total HMG budget" reimbursement method should be dropped.

Annex A:
STATEMENT OF WORK

TITLE: MARKET ACCESS FOR RURAL DEVELOPMENT (MARD) PROJECT
PROJECT NUMBER: 367 - 0167.72

OBJECTIVE:

The objective of the evaluation contract is to provide required technical expertise to USAID/N to conduct a mid-term evaluation of the MARD activity. The purpose of the mid-term evaluation is to:

- Assess the present and likely long-term results of the MARD project, including its contributions towards the Project purpose, its achievements of annual targets and its effectiveness in the use of technical assistance and other inputs.
- Assess the appropriateness of MARD activity indicators and targets and of the indicators/targets, which have been established for MARD's major partners, i.e., Chemonics International (Chemonics), Canadian Center for International Studies and Cooperation (CECI), and the Ministry of Agriculture (MOA).
- Identify MARD activities, which have been particularly successful.
- Assess whether the MARD activity is still an effective way of supporting implementation of the Agriculture Perspective Plan (APP) and provide recommendations to the Mission regarding the relative importance/effectiveness of MARD and other activities as a means of supporting the APP.
- Identify MARD activities, which have not been successful and suggest actions that should be taken to improve unsuccessful activities.
- Make recommendations to USAID for Project continuity or for phase-out of activities which are relatively less successful, given the need to focus scarce development resources on Strategic Objective 1's most effective development activities.

BACKGROUND AND OVERVIEW OF THE MARD PROJECT:

USAID/Nepal's strategy in the agriculture sector is to take advantage of the more democratic and liberal economic policy environment which was established after 1991, and to accelerate agricultural growth in Nepal through increased production of high-value, low volume agricultural products. The Market Access for Rural Development (MARD) activity was designed with this basic development strategy in mind. The MARD activity is the principal vehicle through which USAID/Nepal supports implementation of the hill agriculture strategy, which was set forth in

Nepal's Agriculture Perspective Plan (APP), a twenty-year strategy for agricultural development in Nepal.

The purpose of the MARD Project is to increase sales of high-value agricultural products. This is to be accomplished by expanding markets and increasing the active participation of farmers and agro-entrepreneurs in high-value crop production and marketing. The ultimate objective is to support the adoption of improved production and marketing systems based upon commercial incentives, and to increase the productivity and income of producers, marketers, traders and agro-entrepreneurs engaged in the production and marketing of high value commodities.

The MARD Project is a six-year undertaking, with an initial planned budget of \$7.7 million. It is in the process of being amended to approximately 10 million USD, due to the expansion of nutrition activities, and the decision to provide support for additional priorities, such as dairy enterprise and non-timber forest products. It was begun as a sub-activity under the *Sustainable Income and Rural Enterprise* (SIRE) Project in 1996. Given that SIRE funds are nearly all expended, it is being continued as a sub-activity under Intermediate Result 1.1, *Expanded Market Participation* of the Mission's Strategic Objective 1, *Increased Sustainable Production and Sales of Forest and High-Value Agricultural Products*. An important component of the MARD Project is the monitoring of activity impact on customers and the estimation of results, which are reported annually to AID/Washington through the Mission's Results Report and Resource Request (R4). MARD activity interventions are designed to achieve the following four important results.

1. A sustainable increase in sales of high-value agricultural and livestock products.
2. Expanded market participation.
3. Adoption of improved technologies for high-value agriculture.
4. Improved nutrition for children below six years of age and lactating mothers.

The overall project organization is based on a grant agreement, which was signed by His Majesty's Government (HMG) and USAID on January 26, 1996. The principal instruments for delivering technical and agricultural extension services to MARD's customers and for implementing MARD activities are as follows:

Chemonics International (Contract). Chemonics was initially responsible for carrying out Project interventions and results reporting in five districts of the Rapti Zone. The Chemonics team was moved to a new geographical area covering six districts of the Lumbini and Gandaki zones in May 1998 following the murder of a Chemonics Technical Assistance (TA) Subcontract (METCON) Specialist by Maoist terrorists.

CECI (Grant). CECI is responsible for results reporting and activity interventions in three districts of the Bheri Zone, namely Surkhet, Dailekh and Jajarkot, and in Nuwakot district of Bagmati Zone. Activities in Jajarkot have been delayed thus far due to a Mission decision that implementation should not proceed until the risk of Maoist interference is reduced.

GON Line Agencies (Local Currency). The MARD activity is also implemented by Government of Nepal (GON) line agencies (Department of Agriculture and Department of

Livestock) in the Rapti and Bheri Zones. USAID/Nepal provides local currency matching funds to the GON to implement the MARD activity in these areas. These matching funds are provided through the Ministry of Finance's annual budget, which provides operating funds for all GON line agencies. The GON is responsible for implementation of priority MARD program activities in support of high-value agricultural production in all the districts of the Rapti Zone and two districts of the Bheri Zone. The Ministry of Agriculture indicated to the Mission that local currency resources are needed to complement technical assistance support provided by the MARD/Chemonics team in six districts of the Lumbini and Gandaki Zones now that the MARD/Chemonics team shifted its technical assistance program to the Western Development Region.

SCOPE OF THE EVALUATION

The mid-term evaluation of the MARD Project is taking place three years and nine months after the grant agreement was signed and local currency support began. The technical assistance teams were selected about a year after the grant agreement was signed, and they have only been implementing the MARD activity for two and one half years. At this stage in the life of the MARD activity, the evaluation team will review progress of the program in achieving results envisioned in the Grant Agreement and the extent to which the activity has been successful in helping the GON implement the Agriculture Perspective Plan. More specifically, the team will review the following.

1. The effectiveness of implementation strategies carried out by the Chemonics, CECI and MOA high-value commodity extension programs.
2. Effectiveness of the Chemonics, CECI and MOA teams in identifying and proposing solutions for important policy issues which must be addressed to ensure successful implementation of the MARD activity.
3. Effectiveness of the Chemonics, CECI and MOA Programs in contributing to achievement of the Strategic Objective 1 (SO1) results indicators.
4. Effectiveness of the Chemonics and CECI nutrition Programs.
5. Adequacy of the methodologies used to assess performance results.
6. Assessment of the accuracy of data reported to USAID Nepal by the Chemonics and CECI teams.
7. The effectiveness of the MARD activity as a means of implementing the APP, and recommendations regarding the relative importance/effectiveness of MARD versus other activities as a means of supporting the APP.
8. The effectiveness of Government of Nepal support for the MARD activity and the role, which the GON has played in supporting implementation activities. Attention should be given to positive and negative factors. If negative factors are considered significant, the evaluation will discuss the

seriousness of these factors, assess whether they can be overcome, and provide recommendations for the Mission and the GON on specific actions that the Government should take to improve its support for the MARD activity.

The evaluation will also provide recommendations to the GON and USAID/Nepal regarding the sustainability and overall effectiveness of the Chemonics, CECI and MOA high-value commodity extension programs. This information will assist the Mission in determining whether the MARD Project should be continued in the current mode with three principal implementing mechanisms or one or more of the implementation approaches should be phased out, given the Mission's reduced funding capability, the somewhat uncertain political situation, and the implementation difficulties created by an evolving security situation that prompted relocation of the MARD/Chemonics technical assistance team.

The evaluation team will review the Grant Agreement and its Annexes, Project Implementation Letters, Quarterly and Bi-annual Progress Reports, Workshop and Technical Reports, and Participant Training Reports. The team will also visit field sites in Rapti, Bheri, Lumbini and Gandaki Zones and meet with USAID/N contractors and subcontractors, grantees and sub-grantees, Project beneficiaries, GON and line agency officials, and the MOA Project Coordinator. Note that visits to field sites in the Rapti and Bheri Zones will have to be coordinated with the Embassy Security officer and that the team may not be able to visit some districts or areas which are deemed unsafe, due to the presence of Maoist terrorists. The evaluation team will also meet with USAID/N's other Project partners working in the field of agriculture and agribusiness development. These other partners include the Agro-Enterprise Center (AEC), Winrock International, the Irrigation Management Transfer Project, CARE/Nepal, and New Era. It is proposed that the evaluation be organized according to the four major project interventions specified below.

1. Achieving a Sustainable Increase in Sales of High-value Products and Market

Development: Sustainable increases in sales of high value products will be achieved by implementation of an integrated production, extension and marketing assistance program that includes:

- (a) implementation of marketing improvement activities to reduce marketing costs and expedite the transition from subsistence agricultural systems to a market-led and demand-driven agricultural sector;
- (b) significant increases in production (metric tons), productivity (yields), area (hectares), and sales (\$ millions) of high value commodities;
- (c) establishment of effective commercial marketing linkages between Nepalese producers and producer groups with the established large vegetable markets in India; and
- (d) increased farmer knowledge of how and when to use fertilizers and other agricultural inputs.

2. Adoption of Improved Technology for High-Value Agricultural Production: Agricultural extension activities will be used to successfully demonstrate the high-value agriculture model to farmer groups. Demonstration plots will be used to show farmers the benefits which they can achieve through use of:

- (a) improved high value vegetable varieties,

- (b) soil fertility strategies which promote balanced use of organic and chemical fertilizers;
- (c) economic measures which can be implemented by farmers participating in production and marketing associations;
- (d) Integrated Pest Management or other management practices that will improve the level of technology used by small producers of high-value products.

- 3. Improving the Nutritional Status of Children and Pregnant and Lactating Women:** This will be achieved by a program of interventions which includes:
 - (a) introduction of food based nutrition interventions to increase production of nutritious foods for household consumption;
 - (b) introduction of improved techniques for food storage and preservation;
 - (c) implementation of nutrition education interventions which will succeed in bringing about behavioral changes among pregnant and lactating mothers;
 - (d) implementation of awareness activities which will motivate farmer communities to ensure that the dietary intake of growing children is improved; and
 - (e) collection of data which will clearly demonstrate that increased nutrition knowledge has resulted in increased consumption of Vitamin A rich fruits, vegetables and animal products.
- 4. Bottom-up Planning and Policy Reform:** Policy issues will be identified in meetings with farmer groups, traders, and local government personnel who are constrained by existing policies or regulations. Successful adoption of improved policies will be achieved through the following types of interventions:
 - (a) local and regional meetings of government, farmer and trader representatives in which farmers can put their views openly in front of policy makers and discuss alternative solutions to policy constraints ;
 - (b) workshops and seminars in which GON, technical assistance, local government and private sector personnel provide information on the impacts of existing policies;
 - (c) preparation of proposals for specific changes in laws or regulations governing transport or marketing of high-value agricultural products within Nepal; and
 - (d) preparation of proposals for specific changes in laws or regulations governing transport, marketing or export of high-value agricultural products to India.

In addition to assessing the effectiveness of the MARD partners in implementing the four major intervention areas identified above, the evaluation team will also address the relevance or importance of several cross-cutting themes which affect implementation in all areas. These crosscutting themes include, but are not limited to, the following types of issues:

- (a) Is the MARD Activity benefiting from collaboration with other USAID/N partners and other donor projects? Is there a need for greater communication and coordination between MARD personnel or with other partners?
- (b) Have MARD activities significantly improved farmer and trader capacity to become self-reliant, independent and capable of increasing the volume and improving the quality of high-value commodities?

- (c) Have MARD activities improved beneficiaries ability to penetrate local and regional markets?
- (d) Is the participant training program an effective way to meet or improve the GON's manpower development needs?
- (e) Has the GON provided counterparts and other required manpower in a timely manner in order to support and expedite program implementation?
- (f) Have USAID/Nepal's contractor and grantee teams been effective in working together to achieve the project purpose and meet SO1 targets?
- (g) Have USAID/Nepal's contractor and grantee teams used short-term and-long term TA effectively? Have short-term and long-term TA been equally effective in furthering Project objectives, or has one type of TA proven to be superior? Have the Chemonics, CECI and MOA technical assistance approaches been equally effective in implementing the Project and achieving results, or has one team proven to be superior?
- (i) What have been the major implementation difficulties for the MARD activity?
- (j) Have the HMG decentralization policy or the uncertain security environment posed serious or insurmountable problems for implementation of the MARD activity?
- (k) Has the MARD activity been able to work successfully with both female and male producers of high value commodities? To what extent do men and women both participate in and benefit from the MARD activity?
- (l) Have MARD contractors and grantees developed satisfactory Project monitoring and implementation systems? Was a baseline study conducted to establish a benchmark for measuring implementation progress? What progress has been achieved in measuring annual production and sales levels of high-value commodities in target areas?
- (m) What lessons have been learned during the first three years of Project implementation?
- (n) What recommendations does the evaluation team have for improving project implementation or for improving the project monitoring and evaluation system?
- (o) Is Project implementation essentially on schedule? If not, what practical recommendations does the implementation team have for overcoming implementation difficulties and getting implementation back on schedule?

EVALUATION METHOD AND PROCEDURES:

The evaluators will review available Project documents and interview Project personnel as needed. The evaluation team will need to visit Project areas to get first-hand information from the farmers and other Project beneficiaries regarding the assistance they have received. The evaluation team

should therefore be sure to meet with members of producer and marketing groups at the local level. They should also meet with district Agriculture Development Officers, district Livestock Development Officers, traders, local government officials, TA team members, and other personnel in target areas who are involved in high-value agricultural and livestock production activities.

DELIVERABLES

The deliverables for this contract are as follows:

1. Draft Workplan: The Draft Workplan will be sent electronically to the SO1 Team Leader at least 3 days before the evaluation team arrives in Nepal. The SO1 Team Leader will coordinate USAID/N's review of the document and will provide Mission comments on the draft when the team arrives in Nepal.
2. Final Workplan: The Final Workplan will be prepared in response to Mission comments and suggestions regarding the Draft Workplan. It will be submitted to the SO1 Team Leader by the end of the team's third day in Nepal.
3. First Draft Evaluation Report: Five copies of the First Draft Evaluation Report will be submitted to the SO1 Team Leader six days before the evaluation team leaves Nepal. The SO1 Team leader will provide comments, edits and/or suggestions to the Chief of Party (COP) within two days of receiving the First Draft Evaluation Report.
4. Second Draft Evaluation Report: The Second Draft Evaluation Report will incorporate SO1 Team Leader comments and suggestions on the First Draft Evaluation Report and will be delivered to the SO1 Team Leader prior to the Evaluation Team's departure from Nepal. The SO1 Team Leader will coordinate a USAID/Nepal review of the Second Draft Evaluation Report and will provide USAID's comments to the COP.
5. Final Report: The COP will complete the final report and send an electronic copy of the final report to the SO1 Team Leader within 15 days of having received USAID comments on the Second Draft Evaluation Report.
5. Delivery of Final Report: The contractor will ensure that fifteen bound copies of the Final Report are delivered to the SO1 Team Leader in Kathmandu, Nepal within 31 days of having received USAID/Nepal comments on the Second Draft Evaluation Report.

PERIOD OF PERFORMANCE AND LEVEL OF EFFORT

The Evaluation team should begin their field work in Nepal during the first half of September. An illustrative schedule of activities/level of effort is shown below.

September 6 -- Arrive in Kathmandu

September 7 -- Review draft SOW with the SO1 Team and hold introductory meetings with the Director and the Program Office. Review project files and reports.

September 9 -- Interviews with Ministry of Agriculture Personnel, (DOA, DLS and Project Coordinator), in Kathmandu. Prepare Final Workplan. Continue review of project files and reports.

September 10 -- Review Final Workplan with the SO1 Team. Interviews with selected donors or NGOs, if deemed useful or appropriate. Continue review of project files and reports.

September 11 through 23 - Field visits and interviews with the technical assistance teams (Chemonics and CECI), the Project Coordination Office, farmers, traders, MOA personnel, NGOs, local government officials and others in the expanded project areas (i.e., the Rapti, Bheri, Lumbini and Gandaki Zones as well as the MOA Regional Offices in Surkhet and Pokhara). Note that field trip plans should be coordinated with and approved by the Embassy Security Officer.

September 24 --Travel back to Kathmandu

September 25 --Saturday

September 26 through 30 -- Preparation of First Draft Evaluation Report and additional interviews in Kathmandu if necessary

October 4 -- Submission of Second Draft Evaluation Report

October 5 -- Evaluation Team leaves Nepal.

October 31 -- The contractor sends an electronic copy of the Final Evaluation Report to the SO1 Team Leader.

November 15 -- The SO1 Team Leader receives 15 bound copies of the Final Evaluation Report

TEAM MEMBERS AND QUALIFICATIONS OF PERSONNEL PROPOSED

Team Members Composition:

A five person team composed of two U.S expatriates and three Nepali professionals will be required to conduct the mid term evaluation according to the broad scope of work that has to be covered by the evaluators in the 14 districts where MARD is currently active. At the discretion of the U.S. evaluation team leader, the five-member team may split into two groups in order to cover as much project geographical areas as possible in the limited time available for the field study. A sub-group will contain at least two persons and each sub group will have at least one U.S expatriate.

Qualifications:

For all team members including Nepali professionals, experience with Asian agriculture systems is essential. Extensive field experience in one or more Asian countries, preferably including Nepal is highly desirable. Strong English writing skills are necessary. The specific qualification and experience requirements are as follows:

U.S. Expatriates:

Expatriate Team Leader (TL): should have at least a Masters degree in agricultural discipline such as agriculture economics, horticulture economics, marketing economics, agriculture extension, and agricultural policy analysis. He/she should also have strong knowledge and experience in the agricultural marketing of high value crops such as vegetables and fruits with a minimum of ten years of practical work experience. Additional degree in the field of livestock sector will be an added advantage. It is essential that the team leader has prior A.I.D project evaluations experiences in the field of rural development.

Expatriate Deputy Team Leader (DTL): should essentially have a similar background of a Team Leader, but need not be identical. Most importantly, the DTL should have practical experience in project evaluations of rural and agriculture development, project-monitoring systems, and in the interviewing of farmers, traders, extension agents, and agricultural technical assistance personnel. It is essential that the DTL have prior A.I.D. project evaluations experience.

Local Professionals:

Horticulturist/Agriculturist: should have at least a Masters degree in Agriculture discipline and 10 years of professional experience at field levels in agriculture extension, crop productivity systems for vegetable, fruit and seed productions and marketing. Prior agriculture and or rural development project evaluation is essential.

Livestock/Fodder Specialist: should have at least a Masters degree in Livestock Production, extension and management or animal science and 10 years of practical work experience with livestock and forage production at village and community levels. Prior rural development project evaluation experience is essential.

Nutritionist: should have at least a Masters degree in Nutritional Science, Nutritional Biochemistry, Human Nutrition, and 10 years of practical work experience. He/she should have prior project evaluation experience in the rural context of Nepal. He/she must also have a good understanding of the food beliefs associated with religion, cultural norms, and gender issues.

Annex B MARD Mid-term Evaluation Contact List

HMG Contacts

- Dr. Surendra Shrestha, Joint Secretary Planning Division, MOA, ,Kathmandu
- Dr. Lila Pathak, Acting Secretary, Ministry of Agriculture
- Mr. Asheshwar Jha, Deputy Director General, DOA, Hariharbhawan, Lalitpur
- Mr. Ganesh Raj Joshi, Project Coordinator, MARD, DOA, PC Officer, Tulsipur, Dang
- Dr. Kaushal K. Lal, Regional Director, DOA, Malepatan, Pokhara

- Dr. Madan Singh Karki, Regional Director, DLS, Matipani, Pokhara
- Mr. Thakur P. Pradhan, ADO, Agriculture, Development Office, Pardi, Birata, Pokhaa
- Mr. Iswar Rijal, ADO, DOA, Development Office, Putali Bazar, Syangja
- Mr. Ratna Dhoj Shahi, Chief, Agriculture, DO, Siddarthanagar, Rupendehi
- Mr. Sukra Pradhan, Chief, Agriculture, Department Office, DOA, Parasi, Nawalparasi

- Mr. Sankata Prasad, Chaturbedi, Chief, Development Office, DOA, Taulihawa, Kapilbastu
- Dr. K.B. Shrestha, Coordinator, AREP, Kathmandu
- Mr. Tek Bahadur Shrestha, Joint Secretary, Ministry of Agriculture
- Shree Ram Ghimire PCO, Tulsipur Dang
- Dr. Basan Bahadur Singh, DVSO, Dang

- Mr. Janak Ram Bhandari ,DLSO, Salyan
- Mr. Rabi Kumar Dangol, APO DADO Office, Dang
- Mr. Padam Kumar Rajbhandari, AHDO DADO Office, Dang
- Dr. Gopal Giri , ALDO Tulsipur, Dang
- Mr. Jeeva Lal Lamsal, DLSO, Pyuthan

- Mr. Deepak Paudel, AHDO DADO Office, Rolpa
- Mr. Deepak Sharma, AAEO MARD/PCO, Dang
- Dr. S. K. Shakya, Acting Director General, DLS
- Dr. D. Parajuli, Planning Chief, DLS
- Mr. B. Sharma, DLS, Hariharbhawan

- Mr. S. S. Shakya, Senior Extension Officer, DADO
- Mr. Khadga Junj, Gurung CELI/SAPROS, Dailekh
- Mr. Chhatra Bahadur Shahi, Senior Technical Staff SAPROS, Dailekh
- Dr. Dhana Raj Ratal, Regional Director, Surkhet, Nepal

VDC Contacts

- Mrs. Shanti Sapkota, Laligurans, Sheri VDC, Dailekh
- Mr. Prem Bahadur Charmakar, Farmer, Baraha VDC, Dailekh

- Mr. Pasupati Lamichane, Farmer, Sheri VDC, Dailekh
- Mrs. Krishan Acharya, VCP, Lali Gurans Production Group, Sheri VDC, Dailekh

NGO and Private Sector Contacts

- Mr. Binu Kumar Bhattarai, Market Development Division, UNDP, Surkhet
- Mr. Laxman Sharma, Vice Chairman, Narayanghat, Fruit and Veg. Mkt. Association
- Dr. Badri Kayastha, Executive Director, No. Frills
- Mr. Prakash Adhikari, Proprietor, Birendranagar, Municipality Market, Surkhet
- Mr. Nagendra Pandey, Farmer, Madan Pokhara, Palpa
- Mr. Chhabilal Ghimire, Farmer, Dovan, Palpa
- Mr. Danda Pani Pathak, Armer, Ajhar, Nawalparasi
- Mr. Vikaram Chaudhary, Farmer, Nawalparasi
- Mr. Ghanashyam Bhusal, Member, Fruit and Vegetable Marketing Association, Butwal
- Mr. Som Nath Paudel, Chairman, Dalle Papal Production Group, Kaski
- Mr. Vijaya, Farmer, Lekh Nath NP, Kaski
- Mr. Rajan Subebi, MD, CMS, Minbhawan, New Baneshwor, Kathmandu, Nepal
- Mr. Abinash Pant, Director, CMS, Minbhawan, New Baneshwor, Kathmandu, Nepal
- Dr. Deva Bhakta Shakya, Managing Director, Agro-Enterprise Center
- Dr. Ram Prakash Yadav, Program Leader, Windrock, International
- Mr. Khendra Prasad Paudel, Livestock Farmer, Gurause, Dailekh
- Ms. Nanda Kumari Pun, Livestock Farmer, Melkuna Chinet, Surkhet
- Mr. Jaya Bahadur Mijar, Livestock Farmer, Botechaur, Surkhet
- Mr. Tika Thapa, Livestock Farmer, Jarapipal, Palpa
- Mr. Yuba Raj, Livestock Farmer, Lamsal, Rajhar, Nawalparasi
- Mr. Rajendra Lamichhane, Farmer, Rajhar, Nawalparasi
- Dr. Brian Headley, Production Advisor, ADB Third Livestock Development Project

CECI Contacts

- Mr. Keshab Koirala, Program Director, CECI/ MARD Surkhet/Dailekh
- Mr. Fracois Lafreniere, Project Team Leader, CBEB /CECI
- Ms Lynee Brennan, Gender and Extension, CECI/MARD, Shurkhet
- Mr. Guy Dionne, Micro-enterprise Capacity, CECI/MARD, Shurkhet
- Ms Nathalie Simonean, Nutrition Specialist, CECI/MARD, Shurkhet
- Ms Riefgah Juppier, Marketing and Production, CECI/MARD, Shurkhet
- Dr. P.N. Sharma, Livestock Development, CECI/MARD, Shurkhet
- Mr. Navraj Acharya, Savings and Credit, CECI/MARD, Shurkhet

- Mr. Bom Bahadur Thapa, CECI/SAROS, Dailekh
- Mr. Sanjaya Rimal, Nutrition specialist, CECI/MARD, Shurkhet

- Mr. Dilli Ram Baral, CECI/CEAPRED, Chinchu

Chemonics Contacts

- Dr. Larry C. Morgan, COP, MARD/Chemonics
- Dr. B.B. Mathema, Field Activity Co-ordinator, MARD/Chemonics
- Dr. Shiva Kumar Chaudhary, Senior Extension Specialist, MARD/Chemonics
- Dr. (Mrs.) Parvati Shrestha,, Nutrition Specialist, MARD/Chemonics
- Mr. Ashok Shah, Horticulture Extension Specialist

- Mr. Dambar Bahadur Gurung, Livestock Specialist
- Mr. Nilkantha Sharma, DC, Nawalparasi
- Mr. Shailendra Shrestha, DC, Rupendehi
- Mr. Rajendra Shah, DC, Kapilbastu
- Mr. Abdur Rauf, DC, Palpa

- Mr. Bed Kumar Shrestha, DC, Shyanja
- Mr. Komal Prasad Pradhan, DC, Kaski
- Mr. Ajaya Nanda Bajracharya, Agriculture Marketing Specialist, MARD/Chemonics

USAID Contacts

- | | |
|--------------------------|-----------------------------------|
| ▪ Mr. Bill Douglass | Program Officer, USAID |
| ▪ Ms. Joanne T. Hale | Mission Director, USAID |
| ▪ Mr. George Like | Agriculture Officer, USAID |
| ▪ Mr. Donna Stauffer | Chief Agricultural Officer, USAID |
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Annex C Illustrative Financial Projections for MARD

The following spreadsheets were prepared at the request of the USAID/N Agriculture Office and are supplemental to the SOW.

The primary assumptions in the following spreadsheets were supplied by Chemonics and CECI. The objective in undertaking this analysis was to determine an Internal Rate of Return for the contractor and grantee. These models have been prepared in a summary format and are not intended to be a highly detailed analysis of each entity's activities. Rather, the analysis provides a rough estimation of the Internal Rate of Return for both Chemonics and CECI.

Although there are numerous questions one may raise about the most effective way to measure cost-effectiveness of USAID projects, the following model attempts to measure cost effectiveness in terms of analyzing the marginal Internal Rate of Return. In these models, the marginal IRR is measured by taking the difference between profits generated with the Project in place, versus profits generated under the assumption of no project taking place. The difference between the "with and without" profit scenario is the marginal profit, and it is to this cash flow stream that the IRR equation is applied. The equation also assumes that all Project funds are allocated prior to actual Project startup. This differs slightly from AID's actual implementing methodology, where funds are allocated but withheld from the contractor or grantee until specific points in the Project life cycle.

The models indicate that Chemonics generates a marginal IRR of 65%; and CECI generates a marginal IRR of about 40%. This is based on a ten-year cash flow. In a commercial sense, these are considered within an acceptable range, even in a developing country where IRR investment thresholds are usually higher for investors than thresholds in developing countries.

In terms of actual confidence in these numbers, it must be stated that the evaluation team did not take a due diligence approach to generating these models. That is, it did not rely on independent research to come up with the assumptions used in the models. Rather, the evaluation team (for the most part) relied on assumptions provided by the contractor and grantee themselves. One area in which the evaluation team dictated assumptions was in the rate change on production costs. This rate change was agreed to by both the contractor and grantee, and is based on original research done by Chemonics. A second area in which the evaluation team modified the Chemonics and CECI assumptions was in the area of labor costs. The production costs used in the model include the cost of labor. These labor cost figures for each crop, again, relied on original research done by Chemonics. As farmers have the opportunity to work in non-farm activities, it was felt that the most realistic way to approach these models was to include the cost of the farmer's own labor.

It is important to note that the selling price of vegetables used in the following models are constant over time. This assumption was used because the MARD Project is focusing on off-season production at specific points in the marketing year. MARD is trying to target produce entering the market during the peak price season (December through mid-February). During this time, supplies of vegetables are limited and prices are strong. For this reason, the model assumes

a constant price, rather than a falling price, even though volumes increase over time. In essence, the model is assuming that the off-season vegetable market is inelastic, and additional volumes produced by MARD will not significantly change market price over time.

Chemonics prepared a vegetable market study of the Kathmandu, Kalamati market in 1998. This study found that, over the past ten years, aggregate vegetable prices had fallen (on average) 7% per year. Both cabbage and cauliflower, in particular, were sensitive to increased market volumes and realized significant price falls over the ten-year horizon. Since this data analyzed the entire market year for ten years, it was not felt to be applicable to the MARD financial analysis that follows.